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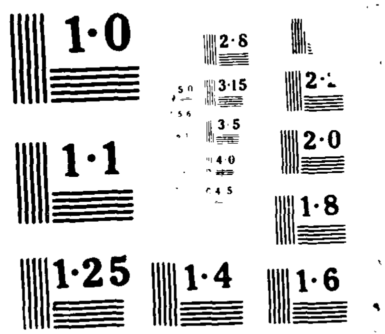
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Cessna 172 MLS Terminal Instrument Procedures (TERPS) Approach Data Collection and Processing Data Report

Edward J. Pugacz

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NOTICE

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16. Abstract

This report documents the approaches portion of the Fixed Wing Microwave Landing System (MLS) Terminal Instrument Procedures (TERPS) data collection and processing project using a Cessna 172 (C-172) aircraft. This is one part of the Fixed Wing MLS TERPS data collection and processing program being performed at the Federal Aviation Administration (FAA) Technical Center. The program was undertaken to collect flight test data in various aircraft to establish a data base for development of MLS TERPS criteria.

Data were collected during both missed approaches and landings using glideslopes of 3°, 4°, and 5° with all flights being tracked by ground based tracking systems.

Statistical processing was performed on both the airborne and tracker data, and various graphical plots were produced. The processed data were delivered to AVN-210 for inclusion in the MLS TERPS criteria development data base.

17. Key Words Fixed Wing MLS TERPS Microwave Landing System (MLS) Terminal Instrument Procedures (TERPS)	18. Distribution Statement This document is available to the U.S. public through the National Technical Information Service, Springfield, Virginia 22161		
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EXECUTIVE SUMMARY

This report documents the Federal Aviation Administration (FAA) Technical Center's Cessna 172 (C-172) Fixed Wing Microwave Landing System (MLS) Terminal Instrument Procedures (TERPS) approach data collection and processing project. This is one portion of the Technical Center's MLS TERPS data collection program. As the implementation of MLS approaches, the application of Instrument Landing System (ILS) TERPS criteria to MLS guided procedures has become inadequate due to MLS's more extensive guidance capabilities. The Technical Center's Engineering Division, ACT-100, was tasked by the Standards Development Branch, AVN-210, Aviation Standards National Field Office, through the Navigation And Landing Division, APM-400, with collecting and processing MLS TERPS flight test data in a Cessna-172 general aviation aircraft. AVN-210 will use the data collected during this project, and additional projects being conducted in various aircraft by the Technical Center and other organizations, to develop MLS TERPS criteria.

During this flight test series, various approach and departure procedures were flown in a leased C-172 to and from runway 13/31 at the Atlantic City International Airport (ACY). The departure procedures flown will be the subject of another report. A Bendix Basic Narrow MLS was used, along with a Bendix MLS receiver. Approach angles of 3°, 4°, and 5° were used for both missed approaches and landings. Sixteen general aviation subject pilots completed all or part of the flight test series. All flights had aircraft parameters recorded by an on-board data collection system, and were tracked throughout by ground based tracking systems.

The airborne and tracking data from each flight were checked for validity, merged, smoothed, and gaps in the data were filled by either linear interpolation or a least-squares quadratic polynomial curve fitting routine. The data were partitioned into bins and statistical calculations were performed. Plan, profile, composite, isoprobability, and scatter plots were drawn. The processed data were delivered to AVN-210 for inclusion in the MLS TERPS criteria development data base.

INTRODUCTION

BACKGROUND AND OBJECTIVES.

As the implementation of the Microwave Landing System (MLS) approaches, the application of Instrument Landing System (ILS) Terminal Instrument Procedures (TERPS) criteria to MLS guided approaches and departures has become inadequate due to MLS's more extensive guidance capabilities. The Federal Aviation Administration (FAA) Technical Center's Engineering Division, ACT-100, was tasked by the Standards Development Branch, AVN-210, Aviation Standards National Field Office, through the Navigation And Landing Division, APM-400, with collecting and processing MLS TERPS flight test data in a Cessna-172 (C-172) general aviation aircraft. AVN-210 will use the data collected during this project, and other projects being conducted in various aircraft by the Technical Center and other organizations, to develop an MLS TERPS criteria data base.

SYSTEM/EQUIPMENT DESCRIPTION

MLS AND PRECISION DISTANCE MEASURING EQUIPMENT.

The "Basic Narrow" MLS used for this project was developed for the FAA by the Communications Division of the Bendix Corporation. It consists of azimuth and elevation subsystems in a noncollocated configuration. It provides proportional guidance through $\pm 40^\circ$ of azimuth and 0° to 15° in elevation in the Phase III signal format. An International Civilian Aviation Organization (ICAO) signal format MLS could not be procured in time for this phase of the project. Because a Precision Distance Measuring Equipment (DME/P) ground station was not available for this flight test series, the airport Conventional Distance Measuring Equipment (DME/N) ground station was used instead. This did not present a problem procedurally because the airport DME ground station is located next to runway 13/31, approximately 1 mile from the azimuth DME location.

TEST AIRCRAFT.

The test aircraft was a leased Cessna-172P. This is a representative small general aviation (GA) aircraft, with a gross weight of approximately 2,400 pounds, a cruising speed of 110 knots, and approach speeds in the range of 70 to 90 knots. The aircraft's avionics were standard, except for the addition of a Bendix MLS Service Test Evaluation Program (STEP) receiver and control head.

AIRBORNE DATA COLLECTION EQUIPMENT.

The airborne data collection system (figure 1) was designed and fabricated by ACT-140. It was controlled by a Motorola 6809 microprocessor and an ACT-140 designed Aircraft Systems Coupler (ASC) retrieved analog and digital aircraft sensor data, along with time code generator data, and formatted it in 8-bit parallel form for processing by the computer. The data were recorded on a digital cassette tape recorder twice per second. A Collins DME-40 interrogator was used to provide DME information to the data collection system (the GA DME

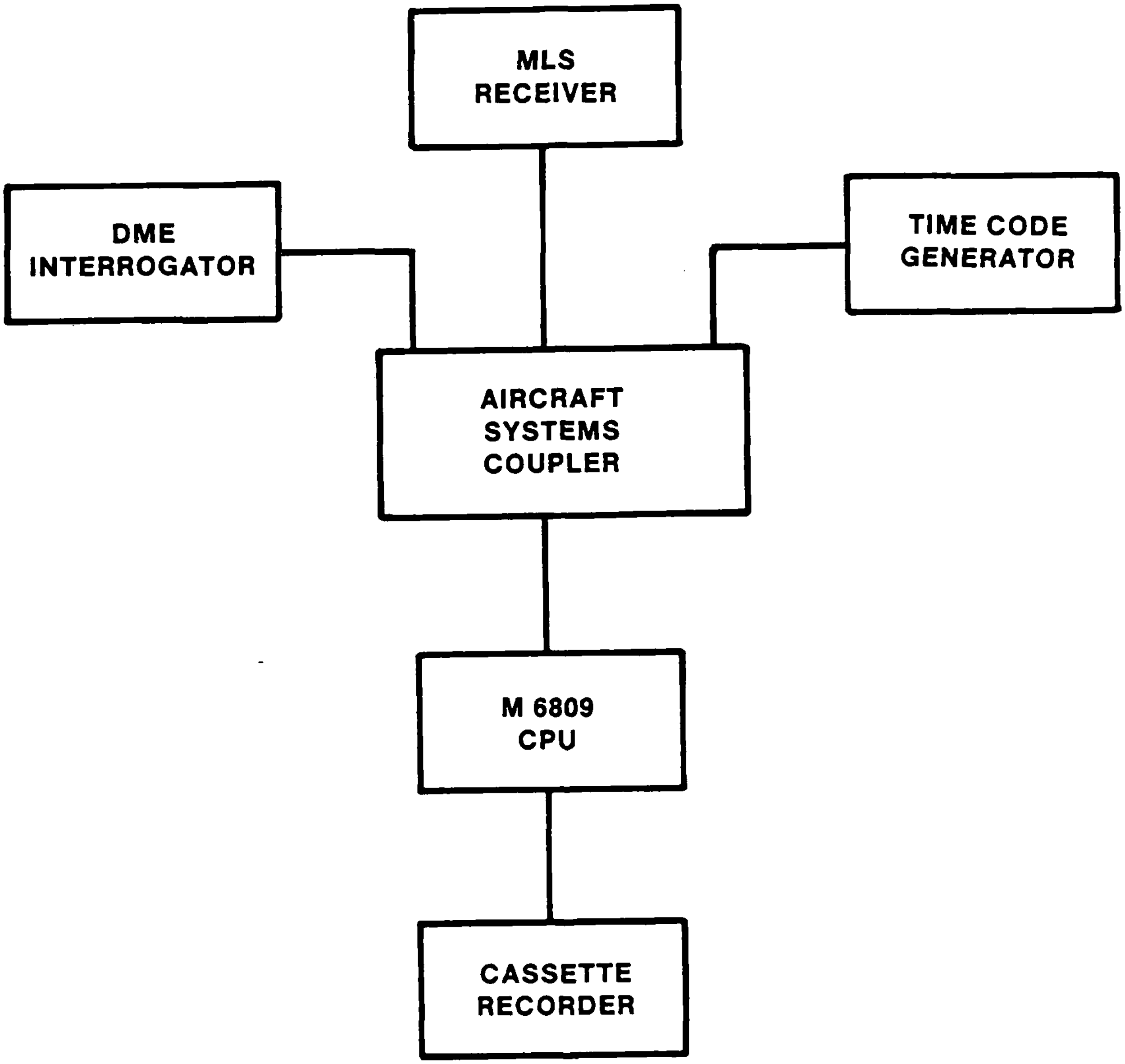


FIGURE 1. AIRBORNE DATA COLLECTION SYSTEM

interrogator installed in the instrument panel was not equipped with recordable outputs). The parameters collected are listed in table 1.

TABLE 1. AIRBORNE DATA COLLECTION PARAMETERS

Parameter	Units	Resolution
Time	Hours, minutes, seconds, 1/10 second	0.1 sec
Vertical deviation (flight technical error (FTE))	Crosspointer deviation in millivolts (mV)	0.5 mV
Lateral deviation (FTE)	Crosspointer deviation (mV)	0.5 mV
MLS azimuth	Degrees	0.005°
MLS elevation	Degrees	0.005°
DME	Nautical miles (nmi)	0.01 nmi

AIRCRAFT TRACKING EQUIPMENT.

In order to assure continuous tracking of the aircraft during all maneuvers, two different tracking systems were used: NIKE radar and a laser tracker.

The Technical Center's NIKE radar is a precision X-band instrumentation radar system that was adapted from a missile tracking radar to measure and record an aircraft's position in slant range and azimuth and elevation angles. NIKE has a maximum range of 200 nmi.

The pulsed infrared laser tracker is positioned approximately 0.5 mile north of runway 13/31. A mirrored retroreflector was mounted below the cockpit of the aircraft to return the laser beam. Slant range and azimuth and elevation angles were recorded as for NIKE. The laser tracker generally provided the more accurate tracking data at distances of 5 nmi or less from the ground point of intercept (GPI), and at these distances is preferred to NIKE data. Parallax corrections for MLS antenna and retroreflector locations were not made because of their relatively close proximity.

TEST LOCATION.

All procedure development and data collection flights were flown to and from runway 13/31 at the Atlantic City International Airport (ACY), which is located on the grounds of the FAA Technical Center, Egg Harbor Township, New Jersey.

PROCEDURE DEVELOPMENT AND EVALUATION

The procedures for this flight test series were developed by Mr. Theos McKinney, ACT-630, FAA Technical Center, and personnel from the Standards Development Branch, AVN-210, located at the FAA Aeronautical Center, Oklahoma

City, OK. AVN-210 personnel were at the Technical Center during the procedure evaluation flights. The procedure evaluation flights were flown by Technical Center pilots to and from runway 13/31. Approach angles up to 6° were flown before the final determinations were made. After considering a number of factors including safety and approaches during tailwinds, it was determined that the maximum operational elevation angle (MOEA) would be 5°. Since the shallowest approach angle would be 3°, it was obvious that the midpoint elevation angle should be 4°. At the same time, two departure procedures where evaluated. They will be discussed in the C-172 "Departures Data Report."

OPERATIONAL PROCEDURES

SUBJECT PILOT SELECTION.

The subject pilots for this flight test program were taken from the ranks of general aviation pilots. In all, 16 subject pilots were used. All pilots were instrument rated, and had no previous experience flying MLS procedures.

SUBJECT PILOT BRIEFING.

When a subject pilot arrived at the Technical Center, he received a thorough briefing by one of the project safety pilots. Included in the briefing was an explanation of the operation of MLS, a review of aircraft operating procedures, and a review of the procedures to be flown. A sample of the information packet sent to each subject is in appendix A.

DATA COLLECTION FLIGHTS.

In addition to the subject and safety pilots, each flight had a data collection technician onboard. The data collection technician operated the data collection system, monitored all project equipment, and recorded event mark times and other observations on a flight log (see appendix B). The project safety pilot handled all communication with air traffic control (ATC) and the tracking facilities, monitored the subject pilot for safe operation of the aircraft, and operated the vision restricting goggles.

Instead of conventional vision restricting goggles or a hood, an electronically controlled set of instrument meteorological condition (IMC) simulation goggles were used. These goggles have the ability of simulating runway visual range (RVR) of 0 to 1 mile. They can also be instantly cleared to simulate breaking out of clouds. The goggles have a sensing switch that allows a portion of the goggles to be clear while the subject pilot is looking at the instruments, but causes the goggles to completely fog over if the subject lifts his head to look out of the cockpit. Since the goggles were operated by the safety pilot, the chances of cheating were reduced, and a more natural flight environment was presented. Therefore, the subject pilot was able to concentrate on flying the aircraft and not have to worry about removing a hood at decision height (DH). During an approach, the visibility was set to zero. When the subject pilot reached DH, the safety pilot simply cleared the glasses for a landing or kept them fogged for a missed approach. This was important, since the subject pilot did not know if the procedure would terminate in a landing or a missed approach until reaching DH.

Each subject pilot flew 16 approaches. Twelve resulted in missed approaches, and four were flown to landing. In addition, four departures were flown and will be discussed in the C-172 Departures Data Report. The sequence of runs is listed in table 2.

TABLE 2. SEQUENCE OF APPROACHES AND DEPARTURES

Session 1	Session 3
1. Shuttle departure	11. Course reversal departure
2. 3° Missed approach	12. 5° Missed approach
3. 4° Missed approach	13. 3° Missed approach
4. 5° Missed approach	14. 4° Missed approach
5. 3° Landing	15. 4° Landing
Session 2	**Session 4**
6. Shuttle departure	16. Shuttle departure
7. 4° Missed approach	17. 3° Missed approach
8. 5° Missed approach	18. 4° Missed approach
9. 3° Missed approach	19. 5° Missed approach
10. 5° Landing	20. 3° Landing

DATA PROCESSING

FLIGHT TEST DATA.

Flight Test data came from four sources: an airborne data tape, a NIKE tracking tape, a laser tracking tape, and observer flight logs. The airborne tape contained the aircraft parameters collected onboard the aircraft during the data collection flights (table 1). The NIKE and laser tracking tapes contained tracking data that had been converted from slant range, azimuth, and elevation to x, y, and z coordinates using the Technical Center coordinate system. During processing the origin of the tracking data was translated to the appropriate GPI for each glide slope angle. The observer flight logs contained the times for specific events during the procedures and any other pertinent information about the flight.

SUBJECT PILOT QUESTIONNAIRE.

At the conclusion of the fourth flight session, the subject pilot was given a questionnaire to fill out (see appendix C). These questionnaires asked the pilot his opinions on the flyability of each procedure. The completed questionnaires were forwarded to AVN-210 for tabulation and analysis.

PLAN AND PROFILE VALIDITY PLOTS.

For each approach, plan and profile view validity plots were generated (see appendix D). These plots depict vertical and lateral aircraft position and the corresponding azimuth and elevation crosspointer deviations, with respect to

the intended path. The plots determined which runs contained valid data. Runs that had bad tracking data were incorrectly flown due to ATC instructions, or were invalid for other reasons, were eliminated from the statistics pool. The total number of runs flown and the number that were usable are shown in table 3.

TABLE 3. LIST OF USABLE RUNS

Total Number of Pilots:	16
Total Number of Approaches:	258
Number of Missed Approaches and Landings Providing Usable Data:	201
Number of Missed Approaches Providing Usable Data:	
3° Missed Approaches:	49
4° Missed Approaches:	51
5° Missed Approaches:	52
Total	152
Number of Landings Providing Usable Data:	
3° Landings:	23
4° Landings:	13
5° Landings:	13
Total	49

MERGE.

In order to process data that came from three different sources, it was necessary to merge the data from the airborne, NIKE, and laser tapes into one file. When recorded, each record on each tape had been tagged with synchronized time. Thus, it was possible to merge the data from the three different tapes into one data file. The time on the airborne tape was considered the "master," and the data from the tracking tapes were aligned with the data from the airborne tape. A mode flag was created for each merged data file to indicate which tracking data sets were valid. Tracking data were considered invalid only if there were no data with the proper time tag.

FILL.

Occasionally, gaps were present in both the airborne and tracking data. To provide as continuous a string of data as possible, two methods were used to fill in these gaps. If the gap consisted of only one missing record, linear interpolation was used to calculate the missing data. If the gap was between 2 and 20 records long, a least-squares quadratic polynomial curve fitting routine was used. If the gap was greater than 20 records, the gap was too long for the filling routines and was left in the data base.

SMOOTHING.

During processing of the data, a problem was discovered in some of the [illegible] plots, particularly the navigation system error plots. The

plots were extremely noisy, having cyclical spikes with peak to peak values of 30 feet or more. After extensive investigation, the problem was traced to the conversion of MLS azimuth, elevation, and DME to the x,y,z coordinates needed for certain statistical processing. The algorithms used during coordinate conversion were designed to use DME/P data with a resolution of 0.01 nmi. However, only DME/N data, which has a resolution of 0.1 nmi, were available during the flight tests, so smoothing of the DME/N data was necessary. The DME/N data were put through a 41-point smoothing filter, and the resulting data were truncated to 0.01 nmi. This smoothed data was used for all statistical processing where DME/P data were needed, and produced results similar to those seen in previous tests using DME/P data.

DATA PARTITIONING.

In order to compute the required statistics, it was necessary to partition, or bin, the data horizontally (perpendicular to the intended flightpath), and vertically (parallel to the ground). For horizontal bins, the first bin (bin zero) is located along the system x-axis (runway centerline) at the point where a line dropped from the theoretical threshold crossing height (TCH), which is 50 feet above ground level (AGL), intersects the x-axis. Each subsequent bin was located at 50-meter intervals, with positive bins located on the approach side of bin zero and negative bins located on the landing, or missed approach side of bin zero. Additional bins were located at the following points:

1. Intermediate Approach Fix
2. Final Approach Fix
3. Missed Approach Point (DH)
4. Missed Approach Boundary

Vertical partitions were established for missed approach segments. The vertical bins were located at 10-meter intervals AGL while below DH (200 feet), and at 25-meter intervals AGL above DH to 2000 feet AGL.

STATISTICS.

Statistical calculations were performed on the data in each bin. The parameters calculated are in table 4.

TABLE 4. STANDARD STATISTICS

Parameter	Notation
Number of data points	N
Arithmetic mean	$\overline{X}$
Maximum value	X_{max}
Minimum value	X_{min}
Unbiased estimate of variance	S_u^2
Biased estimate of variance	S_b^2
Unbiased estimate of standard deviation	S_u
Biased estimate of standard deviation	S_b
Skewness	b_1
Kurtosis	b_2

To aid in the calculations for skewness and kurtosis, the first 4 moments about zero were calculated. The equations used to calculate the standard statistics and first 4 moments about zero are shown in table 5.

RESULTS

STATISTICAL PRINTOUTS AND TAPES.

The statistical data were delivered to AVN-210 in two different formats. A set of summary statistics and the minima analysis were printed to allow a quick overview of the statistical data. The full set of statistical data were recorded on magnetic tapes due to the extensive volume of paper that would be needed to print the complete set. Examples of the summary statistics printouts are provided in appendix E. The complete set of minima analysis printouts are presented in appendix F. The parameters for which statistics were calculated are listed by segment in tables 6, 7, and 8. The parameters for the minima analysis are listed in table 9.

COMPOSITE PLOTS.

To see how the subject pilots performed as a group, composite plots of each type of approach were produced and are shown in appendix G. These plots are an overlay of each of the individual plan and profile view validity plots and provide an indication of how much airspace needs to be protected for a particular procedure.

ISOPROBABILITY PLOTS.

A graphical presentation of the computed statistics was performed by the drawing of ±6 standard deviation isoprobability plots. The complete set of isoprobability plots is included in appendix H.

LANDING SEGMENT SCATTER PLOTS.

Due to the relatively small number of landings performed during this flight test series, no statistical analysis was done on the landing segment data. However, landing segment scatter plots with a 95 percent error ellipse on each plot were generated for both horizontal and vertical bins. Samples of the landing segment scatter plots are shown in appendix I.

DELIVERIES.

The following plots and processed data were shipped to AVN-210 on June 30, 1987:

1. All validity plots for missed approaches and landings.
2. All isoprobability plots for missed approaches and landings.
3. All composite plots for missed approaches and landings.
4. All summary statistics printouts for missed approaches and landings.
5. All minima analysis printouts for missed approaches.
6. Complete standard statistics on magnetic tapes for missed approaches and landings.
7. All landing segment scatter plots with 95 percent error ellipses.
8. All archival merge and statistics magnetic tapes.

TABLE 5. STANDARD STATISTICS EQUATIONS

Arithmetic Mean (first moment about zero): $\overline{X} = M_1 = \frac{\Sigma X}{N}$

Second Moment About Zero: $M_2 = \frac{\Sigma X^2}{N}$

Third Moment About Zero: $M_3 = \frac{\Sigma X^3}{N}$

Fourth Moment About Zero: $M_4 = \frac{\Sigma X^4}{N}$

Biased Estimate of Variance: $S_b{}^2 = M_2 - M_1{}^2$

Unbiased Estimate of Variance: $S_u{}^2 = \frac{(S_b{}^2)N}{N-1}$

Biased Estimate of Standard Deviation: $S_b = \sqrt{M_2 - M_1{}^2}$

Unbiased Estimate of Standard Deviation: $S_u = \sqrt{\frac{(S_b{}^2)\ N}{N-1}}$

Skewness: $b_1 = \frac{M_3 - 3M_1M_2 + 2M_1{}^3}{(M_2 - M_1{}^2)^{1.5}}$

Kurtosis: $b_2 = \frac{M_4 - 4M_1M_3 + 6M_1{}^2M_2 - 3M_1{}^4}{(M_2 - M_1{}^2)^2}$

TABLE 6. PARAMETERS FOR STATISTICAL CALCULATIONS:
INTERMEDIATE AND FINAL APPROACH SEGMENTS

Parameters for Statistics	Intermediate	Final
Crosstrack Position (feet)	Yes	Yes
Altitude (feet)	Yes	Yes
Azimuth TSE (degrees)	Yes	Yes
Azimuth TSE (feet)	Yes	Yes
Azimuth FTE (degrees)	Yes	Yes
Azimuth FTE (feet)	Yes	Yes
Azimuth FTE (% full scale)	Yes	Yes
Azimuth NSE (degrees)	Yes	Yes
Azimuth NSE (feet)	Yes	Yes
Elevation TSE (degrees)	-	Yes
Elevation TSE (feet)	-	Yes
Elevation FTE (degrees)	-	Yes
Elevation FTE (feet)	-	Yes
Elevation FTE (% full scale)	-	Yes
Elevation NSE (degrees)	-	Yes
Elevation NSE (feet)	-	Yes

TSE = Total System Error
FTE = Flight Technical Error
NSE = Navigation System Error

TABLE 7. PARAMETERS FOR STATISTICAL CALCULATIONS: MISSED APPROACH SEGMENT; LONGITUDINAL BINS

1. Crosstrack position (feet)

2. Altitude (feet)

TABLE 8. PARAMETERS FOR STATISTICAL CALCULATIONS: MISSED APPROACH SEGMENT; VERTICAL BINS

1. Along track position (feet)

2. Altitude (feet)

TABLE 9. PARAMETERS FOR STATISTICAL CALCULATIONS: MISSED APPROACH SEGMENT; MINIMA ANALYSIS

1. Altitude at DH (feet)

2. Along-track deviation at DH (feet)

3. Crosstrack deviation at DH (feet)

4. Along-track deviation at lowest altitude (feet)

5. Crosstrack deviation at lowest altitude (feet)

6. Lowest altitude (feet)

7. Height loss (feet)

APPENDIX A

SUBJECT PILOT INFORMATION PACKAGE

ADMINISTRATIVE INFORMATION

Name

Home Address City State Zip

Employer Position

Date of Birth Social Security Number

Home Phone Work Phone

Flying Affiliations: ______________________________

FAA Ratings (Private, Instrument, etc.): ______________________________

Total Flight Hours: ______________________________

Total Cessena-172 Hours: ______________________________

Hooded IFR Hours: ______________________________

Actual IFR Hours: ______________________________

Other Civilian and Military Flying Experience: ______________________________

Project: MLS Steep Angle Approaches for TERPS, T0603P

Sponsor: FAA Navigation and Landing Branch, APM-410

Monitor: FAA Standards Development Branch, Aviation Standards National Field Office, AVN-210

Objective:

To provide flight data suitable for procedures specialists to develop criteria for MLS guided approaches and departures for general aviation aircraft. This data will be used to update Terminal Instrument Procedures (TERPS) for fixed wing aircraft.

Operational Areas Include

1. MLS Precision Approaches
2. Normal and Steep (3^o, 4^o, 5^o) Approach Gradients
3. Height Loss at Missed Approach Point
4. MLS Azimuth Departures

Technical Issues

1. Pilot Workload
2. Aircraft Performance Limitations

Location

Federal Aviation Administration Technical Center
Atlantic City Airport, NJ 08405

Project Contracts

1. Edward Pugacz, Project Manager
   MLS Fixed Wing TERPS Flight Tests, ACT-140
   (609) 484-5707, FTS 482-5707

2. Ken Johnson, Subject Pilot Scheduling
   (609) 484-6467, FTS 482-6467

Attachment #1

VOLUNTARY FAA EMPLOYEE

In order to cover our legal obligation to you during your participation in this project, a request for personnel action will be filled out for you using the information you supply on the subject pilot personal information questionnaire. This will make you a WITHOUT COMPENSATION VOLUNTEER EMPLOYEE with the Guidance and Airborne Systems Branch, ACT-140, FAA Technical Center, Atlantic City Airport, NJ, without compensation during the term of your involvement in this project, approximately 3 days.

Employee Status

A WITHOUT COMPENSATION VOLUNTEER EMPLOYEE is NOT a Federal Employee for any purposes other than injury compensation or laws related to the Tort claims Act. Service is NOT creditable for leave accural or any other employee benefits. However, travel orders will be issued to you, and thereby provide a method to reimburse you for travel expenses as described in attachment #2.

Volunteer Employee Duties

During your involvement in this project, you will perform the duties of pilot of a Cessna-172 aircraft, including preflight planning, aircraft control, navigation, and communication. You will be assigned to perform the technical inflight evaluation of various guidance and airborne systems. You will normally be assigned to work between the hours of 8:00 a.m. and 4:30 p.m. You will be the pilot of the aircraft, however, the project safety pilot will be pilot-in-command AT ALL TIMES.

Qualifications

You will be required to meet the following minimum qualifications to participate in this project:

1. Hold a valid FAA Pilot Certificate with an Instrument Rating.
2. Hold a valid FAA Medical Certificate.
3. Meet the recent flight experience requirements of FAR 61.57.

Termination

Upon the completion of the assignment, your voluntary employment will be terminated, with no further obligation to either party.

ATTACHMENT #2

TRAVEL EXPENSES

You will be reimbursed for normal travel expenses incurred while participating in this project. A U.S. Government travel voucher, Standard Form 1012, has been provided for you to record expenses and submit upon the completion of your participation in the program. The following is a list of important information to keep in mind while on government reimbursed travel.

1. Mileage for actual miles driven in your own car is reimbursed at 20.5¢ per mile.

2. Air travel (if necessary) should be via coach class, and at a discount or excursion fare, if available.

3. By Federal Law, the MAXIMUM ALLOWABLE AMOUNT you can be reimbursed for lodging and meals during any one day is $126.00. Of that amount, $33.00 is a flat reimbursement for meals and incidental expenses, except for the first day of travel, which is limited to $16.50. The remainder, $93.00, is a maximum amount reimbursable for lodging. All other reasonable expenses (car rental, airline tickets, tolls, etc.) are reimbursed at full rate.

4. All receipts for airline tickets, lodging, taxis, and tolls must be remitted with your travel voucher. Receipts for meals are not required.

5. Upon completion of the form, mail to the following address in the postage paid envelope provided for your convenience.

Edward Pugacz
FAA Technical Center
ACT-140
Atlantic City Airport, NJ 08405

DIRECTIONS TO ATLANTIS HOTEL/CASINO

Take the Atlantic City Expressway to the end. Turn right onto Atlantic Avenue.

Proceed several blocks south to Florida Avenue. Turn left.

Proceed to the end of the street. (telephone (609) 441-2888).

DIRECTIONS TO THE PIER 4 HOTEL

Take the Atlantic City Expressway to the Garden State Parkway south. Get off on exit 30.

When you leave the toll booth proceed straight ahead on highway 52 towards Ocean City. Cross route 9 and proceed to the traffic circle.

Bear right at the circle and exit right onto the first road (before passing the Circle Liquor Store).

The Pier 4 is ahead and to your left behind the Crab Trap restaurant. (telephone (609) 927-9141).

DIRECTIONS TO THE COMFORT INN AND DAYS INN

Take the Atlantic City Expressway to the Garden State Parkway south. Bear right on the parkway 1/4 mile to exit 37.

From exit 37 turn left onto Washington Avenue. Proceed to the traffic light and turn right. This is Fire Road.

<u>For Comfort Inn</u>: Proceed on Fire Road to the first traffic light and turn left onto route 40 east. Continue on route 40, approximately 1/2 mile. The Comfort Inn will be on your right (telephone 609-646-8880).

<u>For the Days Inn</u>: Proceed on Fire Road past the first traffic light (route 40) until just short of the second traffic light. The entrance to the Days Inn will be on the right, just before the Mobil station (telephone 609-641-4500).

DIRECTIONS TO THE TECHNICAL CENTER FROM THE GARDEN STATE PARKWAY AND ATLANTIC CITY EXPRESSWAY

If travelling on the Garden State parkway, use exit 38 west/to Philadelphia.

Take the Atlantic City Expressway to exit 9. This exit has a mechanical toll taker that takes exact change only (25 cents).

If travelling from Atlantic City, turn right, if travelling from Philadelphia, turn left, and proceed over the bridge to the traffic circle.

Exit the circle on the third road. This is a divided highway with an Atlantic City Airport/FAA Technical Center sign.

The main gate is straight ahead.

At the main gate indicate you have an appointment with John Ryan, ACT-630, Flight Operations Building (Hangar). Parking is across the road from the hangar.

Once at the hangar, proceed across the hangar floor to the elevator. We are on the second floor, room 207.

DIRECTIONS TO THE TECHNICAL CENTER FROM PIER 4 HOTEL

Go around circle and proceed on highway 52 west to the Garden State Parkway. Take the parkway north to exit 38 (Atlantic City Expressway).

Follow Parkway/Expressway directions above.

DIRECTIONS TO THE TECHNICAL CENTER FROM THE COMFORT INN AND DAYS INN

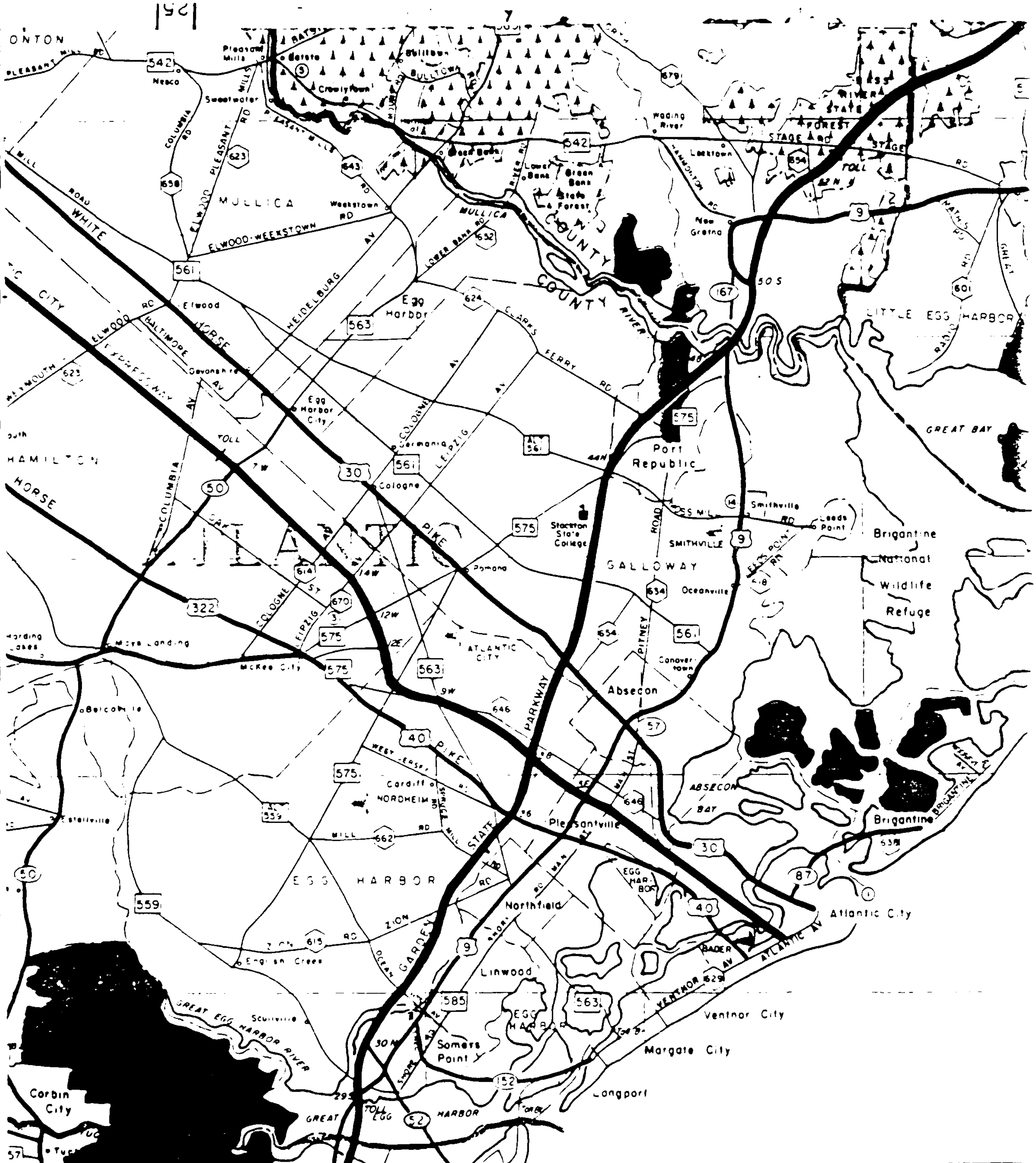
From Comfort Inn: Turn left onto route 40 west. Proceed to the second traffic light (at the Sears Shopping Center).

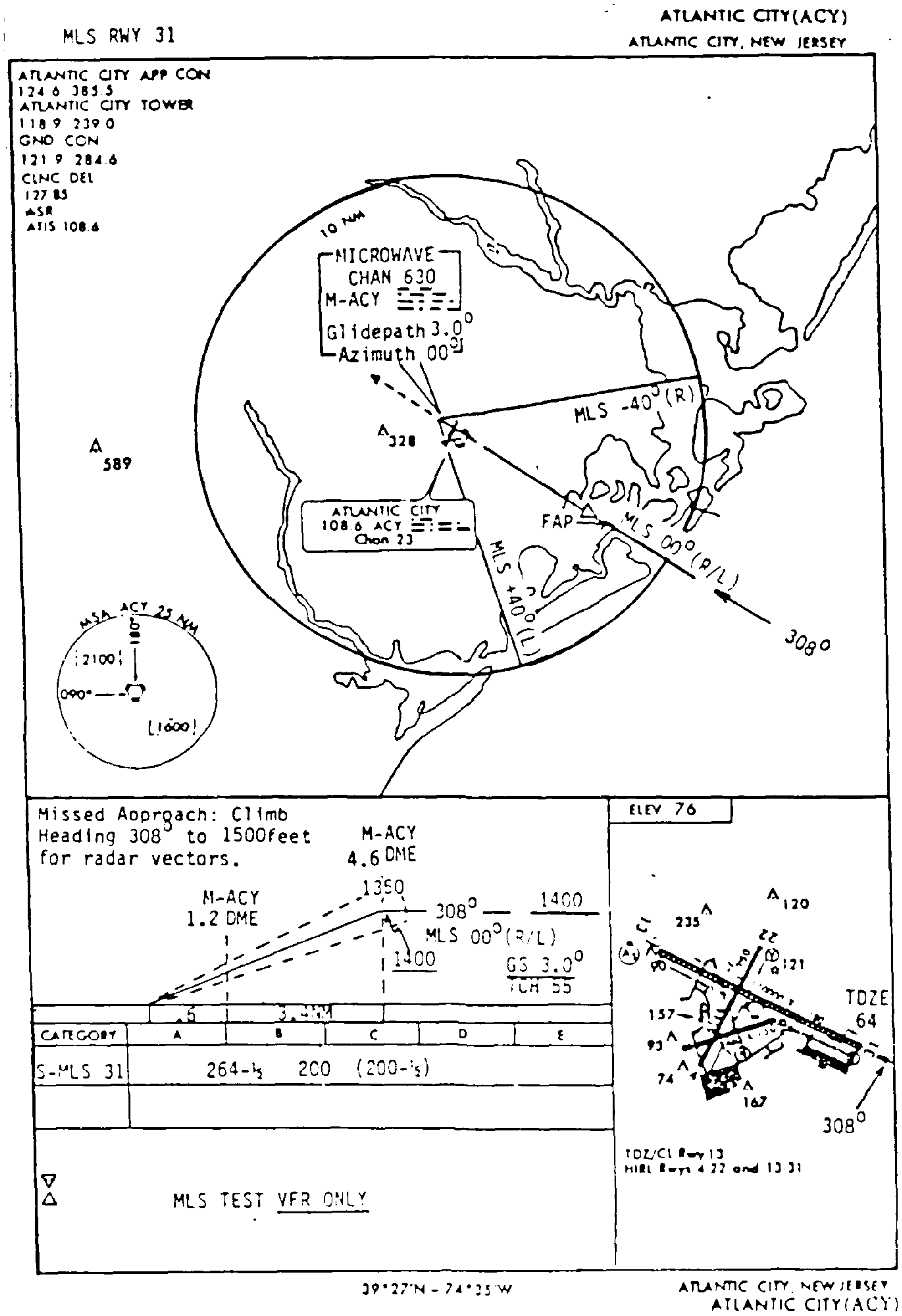
Continue to the traffic circle, and exit on the second road (between the Sunoco and Mobil stations). This is Tilton Road.

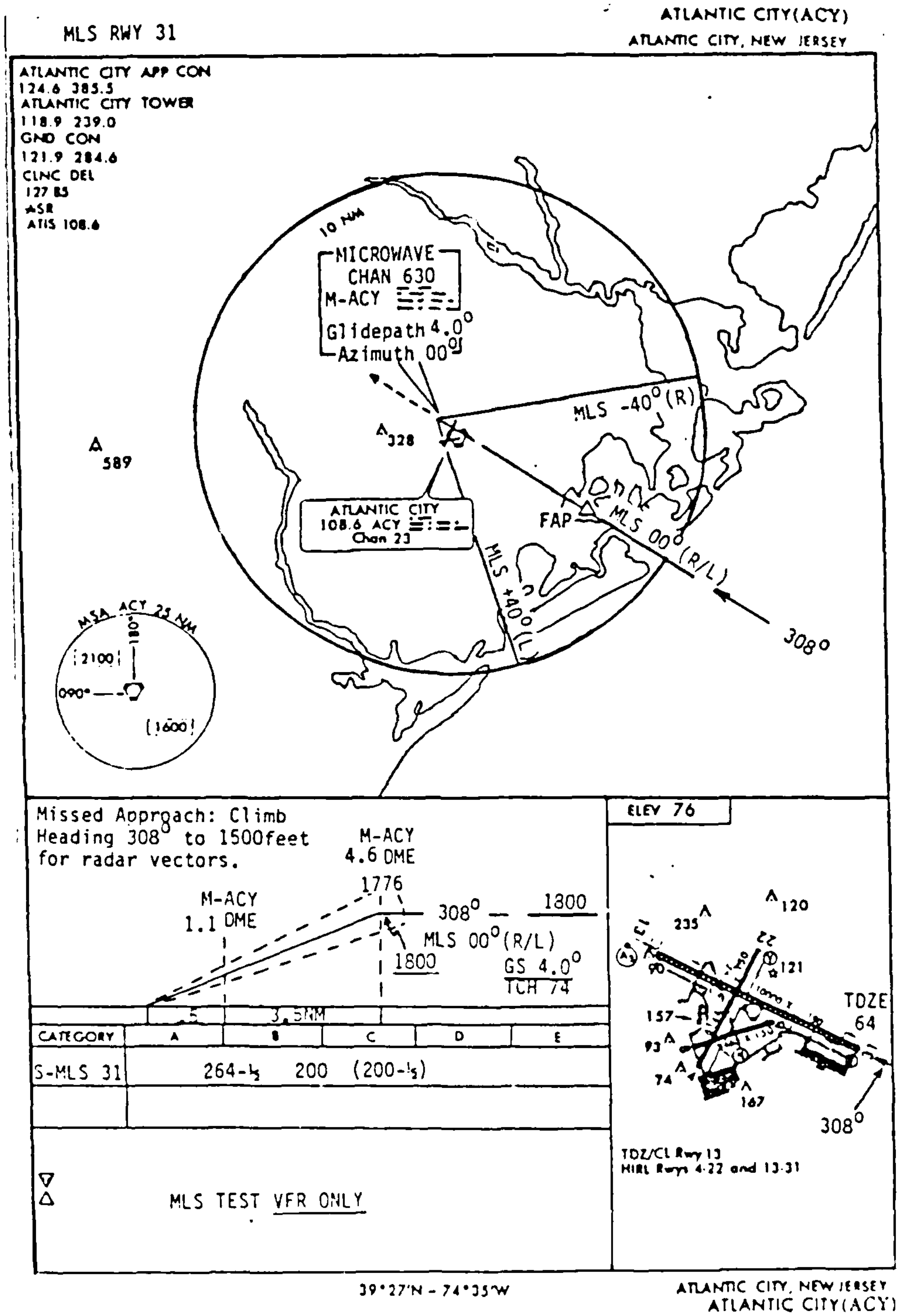
Proceed on Tilton Road and over the bridge to the traffic circle.

Exit on the second road (divided 4 lane highway) and proceed straight ahead to the main gate. Follow the last two Parkway/Expressway directions above.

From the Days Inn: Turn right onto Tilton Road (highway 563), and proceed to the traffic light (at the Sears Shopping Center). This is the second traffic light from the Comfort Inn. From this point, follow directions from the Comfort Inn.


Pleasant Mills
Crowleytown
Bulltown
Nesco
Sweetwater
MULLICA
Weekstown
Elwood-Weekstown Rd
Lower Bank
Green Bank
Wading River
New Gretna
Egg Harbor
Elwood
Egg Harbor City
Germania
Cologne
Port Republic
Stockton State College
Smithville
Leeds Point
Brigantine National Wildlife Refuge
GALLOWAY
Oceanville
Pomona
Conovertown
Absecon
Mays Landing
McKee City
Atlantic City
Cardiff
Nordheim
Pleasantville
EGG HARBOR
Northfield
Linwood
English Creek
Scullville
Somers Point
Margate City
Ventnor City
Longport
Brigantine
Corbin City
LITTLE EGG HARBOR
GREAT BAY
ABSECON BAY
HAMILTON
White Horse Pike
Black Horse Pike
Atlantic City Expressway
Garden State Parkway
Great Egg Harbor River
Mullica River

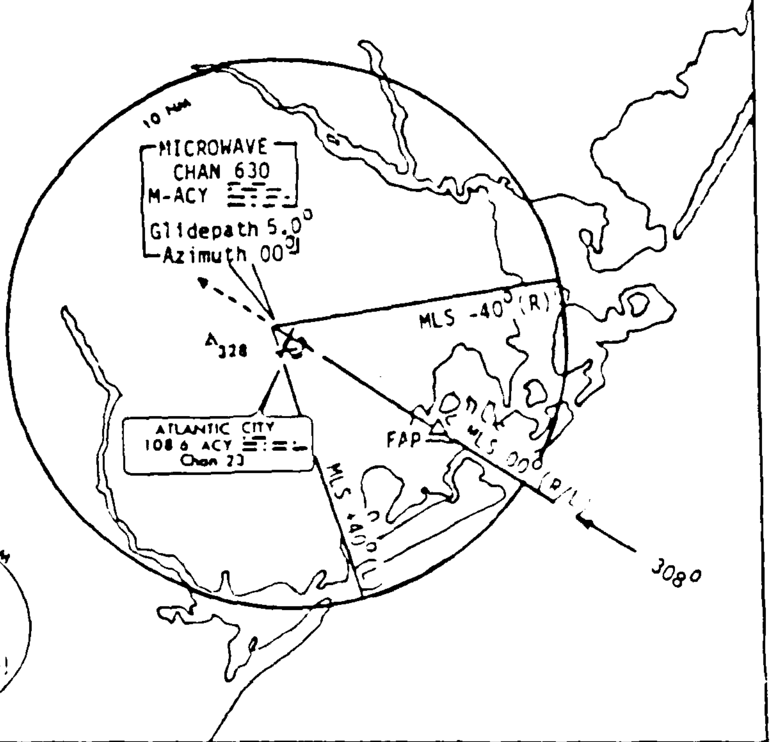

MLS RWY 31
ATLANTIC CITY(ACY)
ATLANTIC CITY, NEW JERSEY
ATLANTIC CITY APP CON
124.6 385.5
ATLANTIC CITY TOWER
118.9 239.0
GND CON
121.9 284.6
CLNC DEL
127.85
ASR
ATIS 108.6
10 NM
MICROWAVE
CHAN 630
M-ACY
Glidepath 3.0°
Azimuth 00°
MLS -40°(R)
328
589
ATLANTIC CITY
108.6 ACY
Chan 23
FAP
MLS 00°(R/L)
MLS +40°(L)
308°
MSA ACY 25 NM
2100
090°
180°
1600
Missed Approach: Climb Heading 308° to 1500feet for radar vectors.
M-ACY 4.6 DME
M-ACY 1.2 DME
1350
308°
1400
MLS 00°(R/L)
1400
GS 3.0°
TCH 55
ELEV 76
120
235
121
TDZE 64
157
93
74
167
308°
TDZ/CL Rwy 13
HIRL Rwys 4-22 and 13-31
CATEGORY
A
B
C
D
E
S-MLS 31
264-½ 200 (200-½)
MLS TEST VFR ONLY
39°27'N - 74°35'W
ATLANTIC CITY, NEW JERSEY
ATLANTIC CITY(ACY)

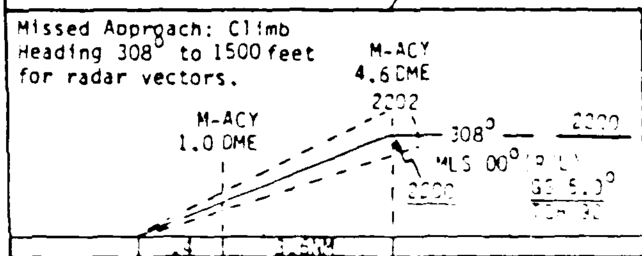

MLS RWY 31
ATLANTIC CITY(ACY)
ATLANTIC CITY, NEW JERSEY
ATLANTIC CITY APP CON
124.6 385.5
ATLANTIC CITY TOWER
118.9 239.0
GND CON
121.9 284.6
CLNC DEL
127.85
ASR
ATIS 108.6
10 NM
MICROWAVE
CHAN 630
M-ACY
Glidepath 4.0°
Azimuth 00°
MLS -40° (R)
328
589
ATLANTIC CITY
108.6 ACY
Chan 23
FAP
MLS 00° (R/L)
MLS +40° (L)
308°
MSA ACY 25 NM
180°
2100
090°
1600
Missed Approach: Climb Heading 308° to 1500feet for radar vectors.
M-ACY
4.6 DME
1776
M-ACY
1.1 DME
308°
1800
MLS 00° (R/L)
1800
GS 4.0°
TCH 74
.5
3.5NM
CATEGORY
A
B
C
D
E
S-MLS 31
264-½
200
(200-½)
MLS TEST VFR ONLY
ELEV 76
235
120
22
121
TDZE
64
157
93
74
167
308°
TDZ/CL Rwy 13
HIRL Rwys 4-22 and 13-31
39°27'N - 74°35'W
ATLANTIC CITY, NEW JERSEY
ATLANTIC CITY(ACY)

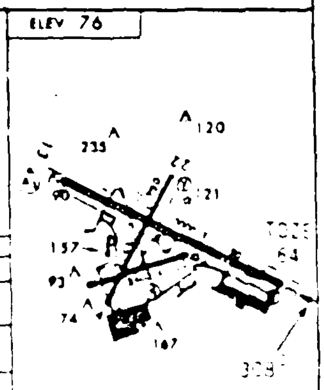
MLS RWY 31

ATLANTIC CITY(ACY)
ATLANTIC CITY NEW JERSEY

ATLANTIC CITY APP CON
124.6 385.5
ATLANTIC CITY TOWER
118.9 239.0
GND CON
121.9 284.6
CLNC DEL
127.85
ASR
ATIS 108.6







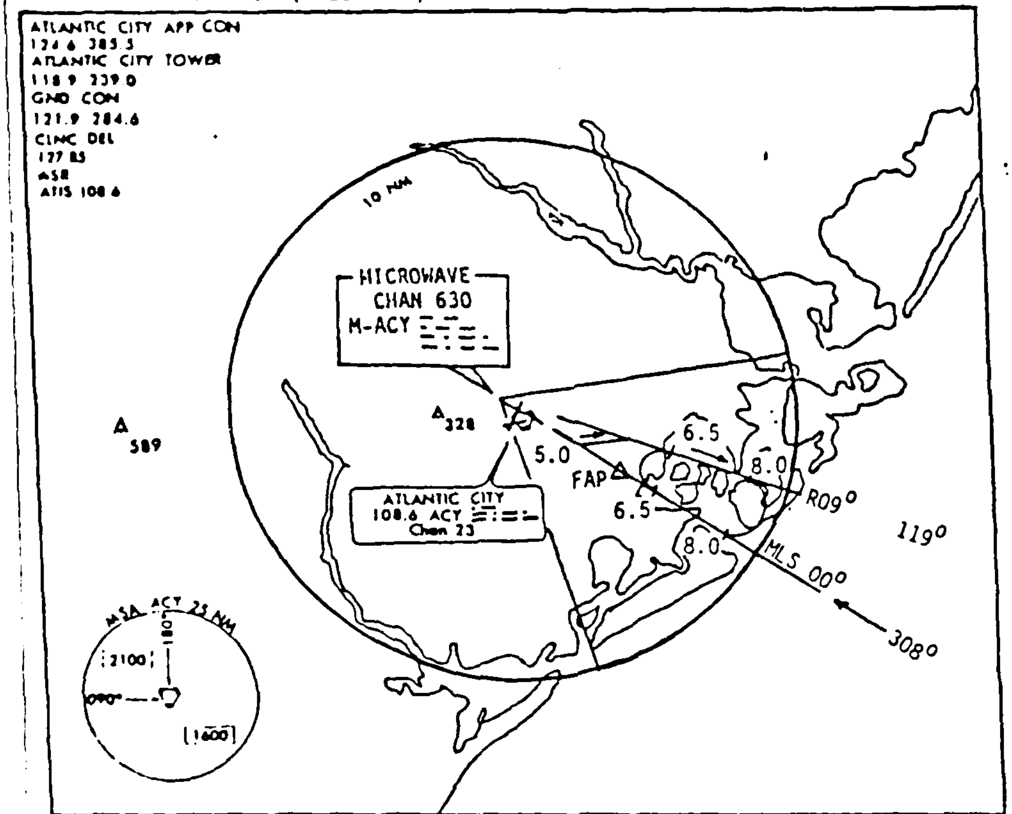
CATEGORY	A	B	C	D	E
S-MLS 31	264-½	200	(200-½)		

MLS TEST VFR ONLY

ATLANTIC CITY(ACY)

MLS SHUTTLE DEPARTURE(PILOT NAV)

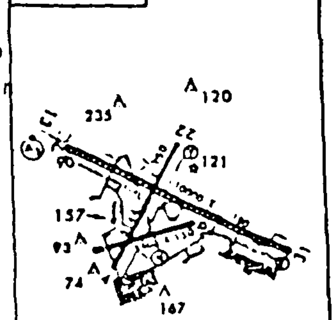
ATLANTIC CITY, NEW JERSEY



TAKE-OFF RUNWAY 13: Depart runway heading 128° and track outbound on the M-ACY 00° Azimuth, climb to 1500 feet before reaching the 5.0 PDME, maintain altitude or continue climb to assigned altitude. At the 5.0 PDME turn left to a heading of 83° and intercept the R09° Azimuth outbound, at the 8.0 PDME hold as depicted or proceed inbound on the 00° Azimuth as directed by ATC.

Note: Holding Airspeed 90 Knots
Inside Turn Bank Angle 13°
Outside Turn Bank Angle 11°
in a No wind condition.

ELEV 76



TDZ/CL Rwy 13
HIRL Rwys 4-22 and 13-31

Knots	60	90	120	150	180
Min:Sec					

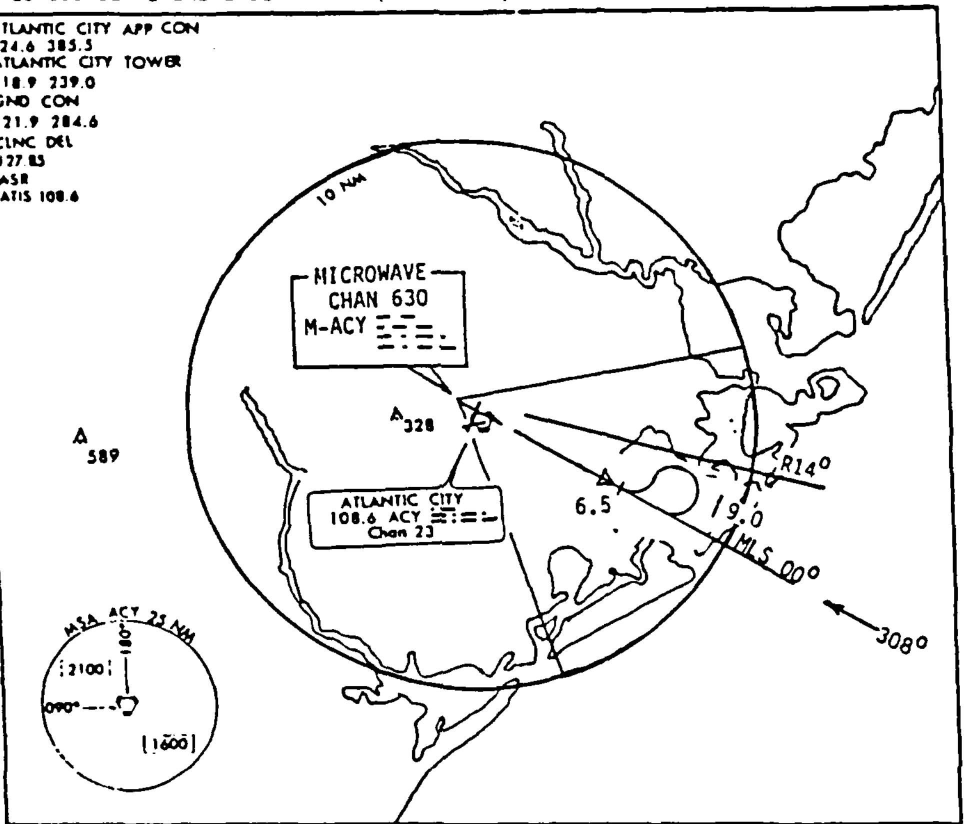
39°27'N - 74°35'W

ATLANTIC CITY, NEW JERSEY

ATLANTIC CITY(ACY)

MLS COURSE-REVERSAL DEPARTURE (PILOT NAV)

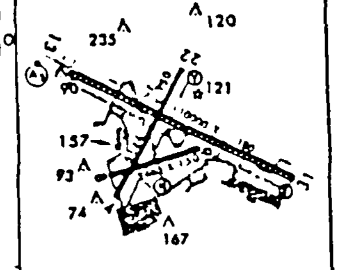
ATLANTIC CITY(ACY)
ATLANTIC CITY, NEW JERSEY



TAKE-OFF RUNWAY 13: Depart runway heading 128° and track outbound on the M-ACY 00° Azimuth, climb to 1500 feet or as assigned. At the 6.5 PDME turn left 80°, upon completing the turn, turn right 260° to intercept the 00° Azimuth and track inbound. At no time during the manuever exceed the R14° Azimuth or the 9.0 PDME, adjust turn rate as necessary.

Note: Manuever Airspeed 90 knots; Minimum Turn Bank Angle is 14° in a No wind condition.

ELEV 76



TDZ/CL Rwy 13
HIRL Rwys 4-22 and 13-31

Knots	60	90	120	150	180
Min:Sec					

39°27'N - 74°35'W

ATLANTIC CITY, NEW JERSEY
ATLANTIC CITY(ACY)

APPENDIX B

FLIGHT LOGS

Date: ________________
Pilots:
Flight: MLS Receiver # Control Head #
AF ______________

MLS Fixed Wing Terps N__________
DME # Observers:

Run	Type	Evt #	Event Time	Code	Evt #	Event Time	Code	Evt #	Event Time	Code	Winds and Baro	COMMENTS
1	Shuttle Depart	1		1	4		4	7		7		
		2		2	5		5	8		8		
		3		3	6		6	9		9		
2	3⁰ MAP	10		11								
		11		12								
		12		13								
3	4° MAP	13		10	16		13					
		14		11								
		15		12								
4	5° MAP	17		10	26		13					
		18		11								
		19		12								
5	3° LAND	21		10	24		14					
		22		11								
		23		12								
6	Shuttle Depart	25		1	28		4	31		7		
		26		2	29		5	32		8		
		27		3	30		6	33		9		
7	4° MAP	34		11								
		35		12								
		36		13								
8	5° MAP	37		10	40		13					
		38		11								
		39		12								
9	3° MAP	41		10	44		13					
		42		11								
		43		12								
10	5⁰ LAND	45		10	48		14					
		46		11								
		47		12								

Date: ____________

Pilots:

Flight: MLS Receiver # Control Head #

AF ______________

MLS Fixed Wing Terps N__________

DME # Observers:

Run	Type	Evt #	Event Time	Code	Evt #	Event Time	Code	Evt #	Event Time	Code	Winds and Baro	COMMENTS
11	Course Reverse	1		1								
		2		15								
		3		16								
12	5^0 MAP	4		11								
		5		12								
		6		13								
13	3^0 MAP	7		10	10		13					
		8		11								
		9		12								
14	4^0 MAP	11		10	14		13					
		12		11								
		13		12								
15	4° LAND	15		10	18		14					
		16		11								
		17		12								
16	Shuttle Depart	19		1	22		4	25		7		
		20		2	23		5	26		8		
		21		3	24		6	27		9		
17	3^0 MAP	28		11								
		29		12								
		30		13								
18	4^0 MAP	31		10	34		13					
		32		11								
		33		12								
19	5° MAP	35		10	38		13					
		36		11								
		37		12								
20	3^0 LAND	38		10	42		14					
		39		11								
		40		12								

APPENDIX C

SUBJECT PILOT QUESTIONNAIRE

Pilot Questionnaire

Steep Angle Approach

Date__________ EL Angle______

Pilot__________ Wind D/V_______

All questions relate to IMC MLS operational performance.

1. Was the EL angle:

Too shallow			About Right			Too steep
1	2	3	4	5	6	7

2. Could the EL angle be steeper? |_| yes |_| no

3. Indicate the difficulty experienced in intercepting and maintaining the glide path angle.

Very easy			About Right			Very difficult
1	2	3	4	5	6	7

4. Indicate the difficulty experienced in keeping the AZ needle centered in relation to the EL angle being used.

Very easy			About Right			Very difficult
1	2	3	4	5	6	7

5. Indicate your assessment of the stabilized power setting relative to operational procedures.

Too low			About Right			Too High
1	2	3	4	5	6	7

6. Compare the difficulty of visual transition and landing from a _______ angle to a normal 3 degree ILS:

Much less			Same			Much More
1	2	3	4	5	6	7

7. Compare the workload of a ________ GS to a normal 3 degree ILS.

Much Less			Same			Much More
1	2	3	4	5	6	7

8. Was the GS intercept distance from DH

Too Short			About Right			Too Long
1	2	3	4	5	6	7

9. What is your recommendation for the maximum allowable rate of descent:

______________________ fpm.

10. What is your recommendation for a minimum at DH?

[ ] 100 [ ] 150 [ ] 200 [ ] 250 [ ] 300 [ ] Other

11. Was this DH satisfactory for the execution of a missed approach? ____________

PILOT QUESTIONNAIRE

MLS DEPARTURE

Date__________ Wind D/V_______

Pilot__________

1. What degree of difficulty did you have maintaining the specified AZ course?

Easy			None			Very Difficult
1	2	3	4	5	6	7

2. Was the difficulty based on

|_| Workload?

|_| Sensitivity of the AZ course?

|_| Other? What nature____________________

____

3. Comments:______________________________

____

PILOT QUESTIONNAIRE

MLS SHUTTLE PATTERNS

Date______________ Wind D/V________

Pilot______________

1. Were the PDME fix distances?

Too close together			About right		Too far apart	
1	2	3	4	5	6	7

2. Was the distance between the two AZ courses sufficient to execute the turns?

Too close			About right		Too far apart	
1	2	3	4	5	6	7

3. Was the workload?

Very low			About right		Too much	
1	2	3	4	5	6	7

4. How would you compare the shuttle pattern to a conventional holding pattern?

Much easier			Same		Much more difficult	
1	2	3	4	5	6	7

5. Comments:____

____

PILOT QUESTIONNAIRE

MLS COURSE REVERSALS

Date______________ Wind D/V________

Pilot______________

1. Were the AZ courses used for containment?

Too close			About right			Too far apart
1	2	3	4	5	6	7

2. Were the PDME fixes used?

Too close			About right			Too far apart
1	2	3	4	5	6	7

3. Was it helpful to provide the maximum PDME distances for containment?

|_| Yes |_| No

4. Was the specified heading sufficient to intercept the AZ course defined for the course reversal?

|_| Yes |_| No

5. Was the approach course capture from the turn reversal acceptable?

|_| Yes |_| No

6. How did the test turn reversals compare to a "conventional" procedure turn?

Easier			Same			More difficult
1	2	3	4	5	6	7

7. Comment:____

____

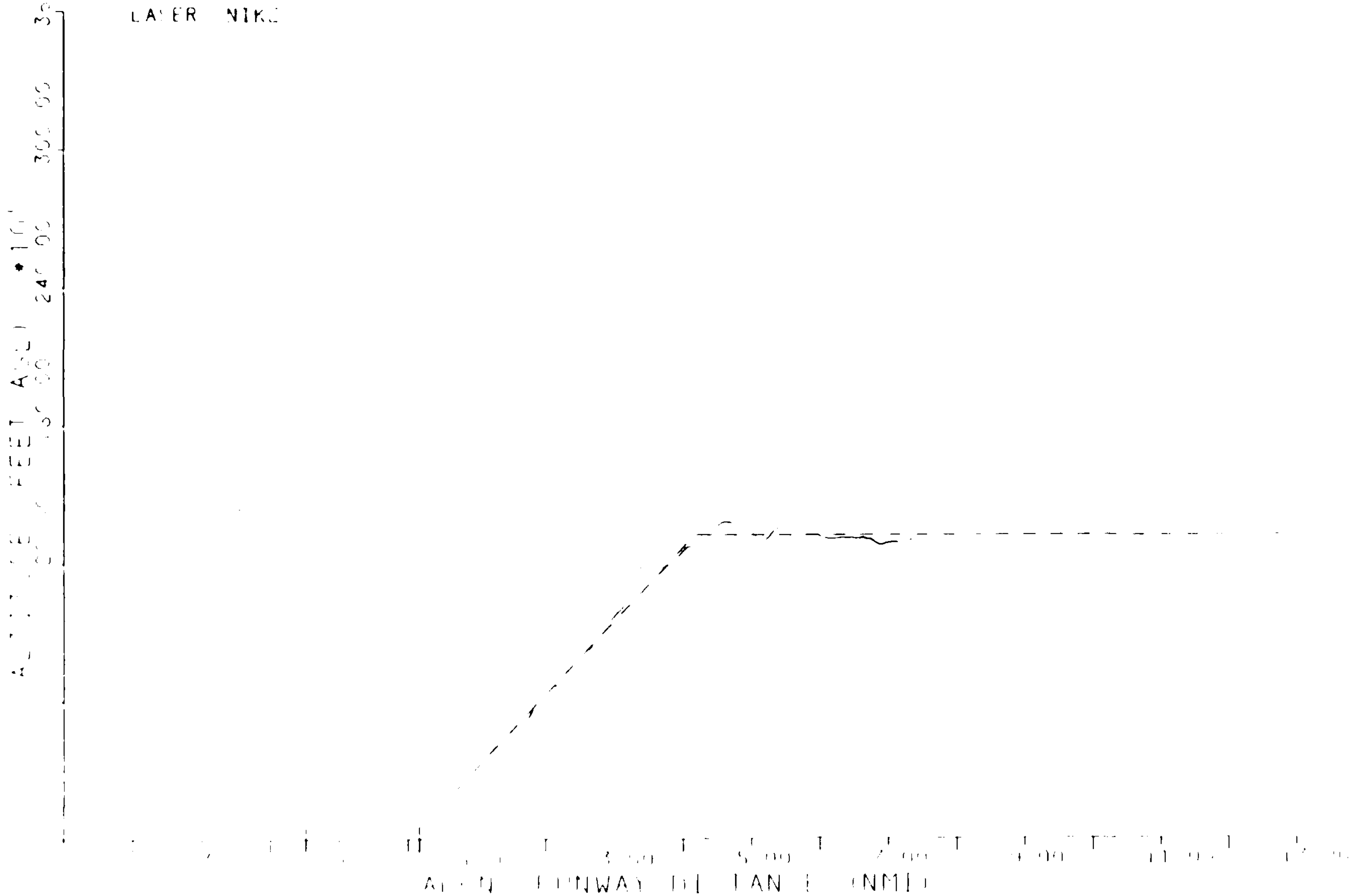
APPENDIX D

SAMPLE VALIDITY PLOTS

N-97613 PILOTS:STOCKHAUSEN,MCKINNEY DATE: 9/17/86

INPUT FILE.>MFC024. RUN NUMBER > 2
RUN START.>11:10:55...RUN STOP.>11:13:17
3 DEG MAP
LASER NIKE

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



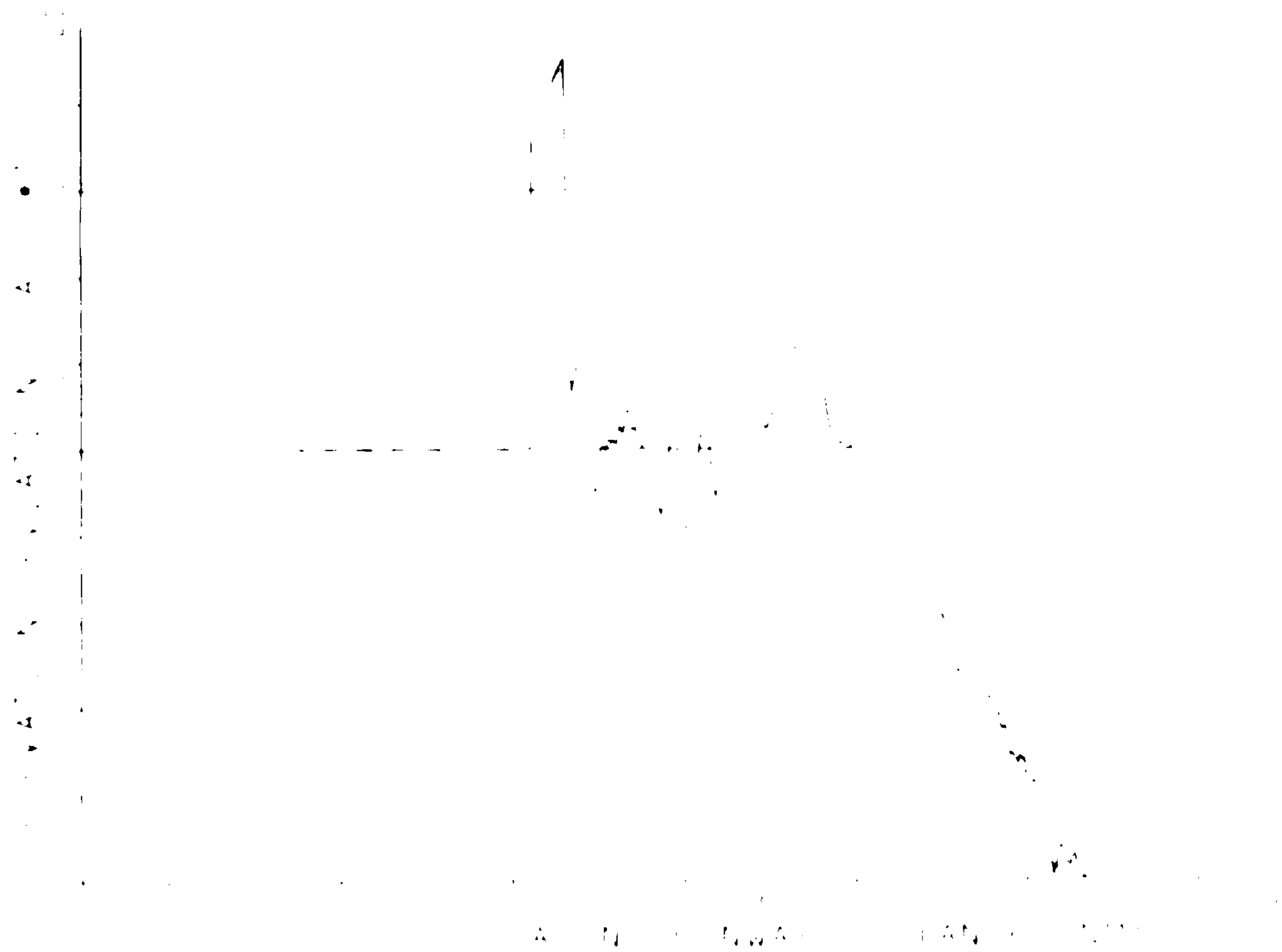
N ... FILE ... THERMAL EN. MCKINNEY DATE ...17/86

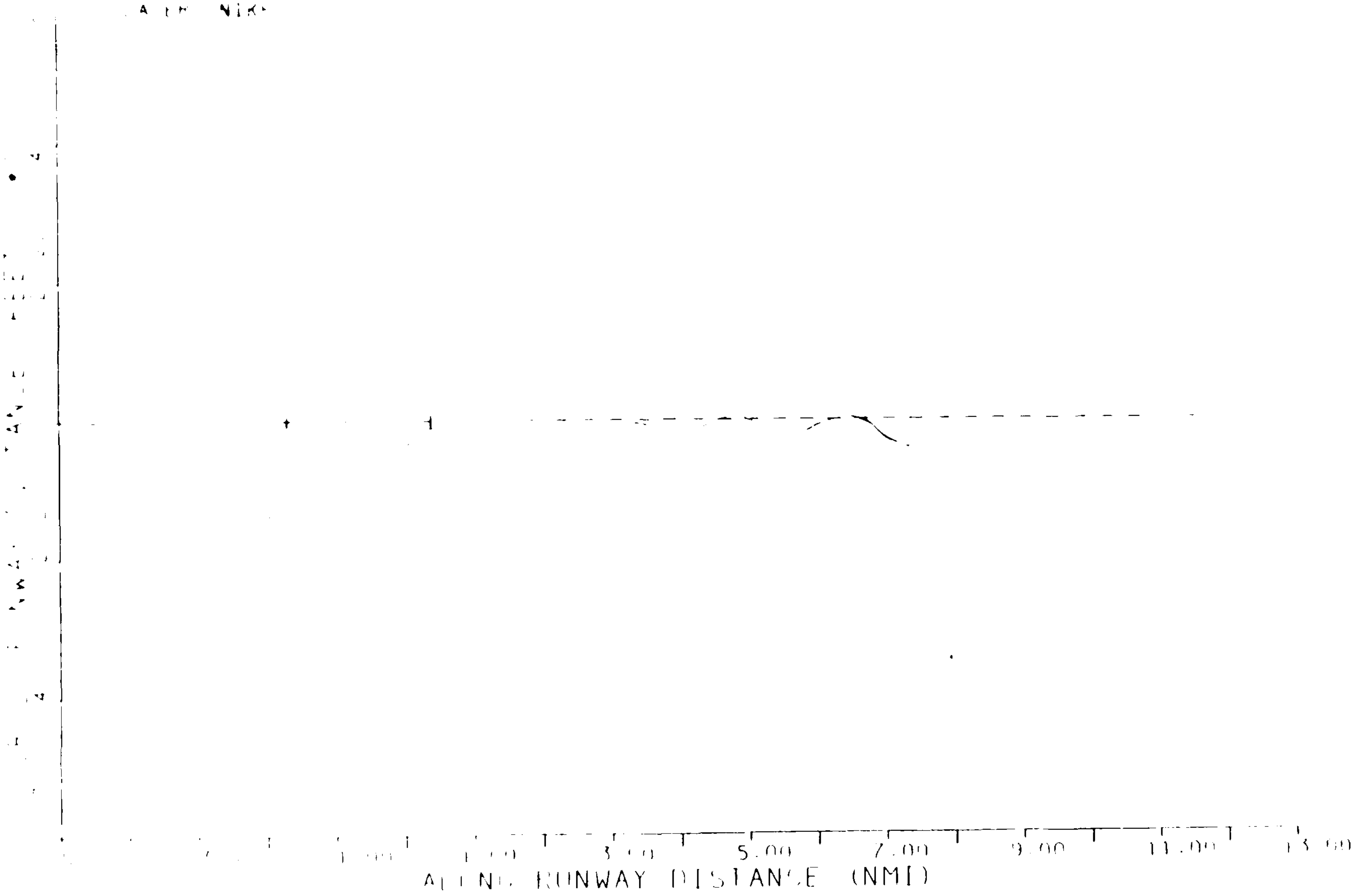
INPUT FILE ...MF...024 RUN NUMBER ...

RUN START ...10 55 RUN STOP ...18 17

... MAP

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, N.J.

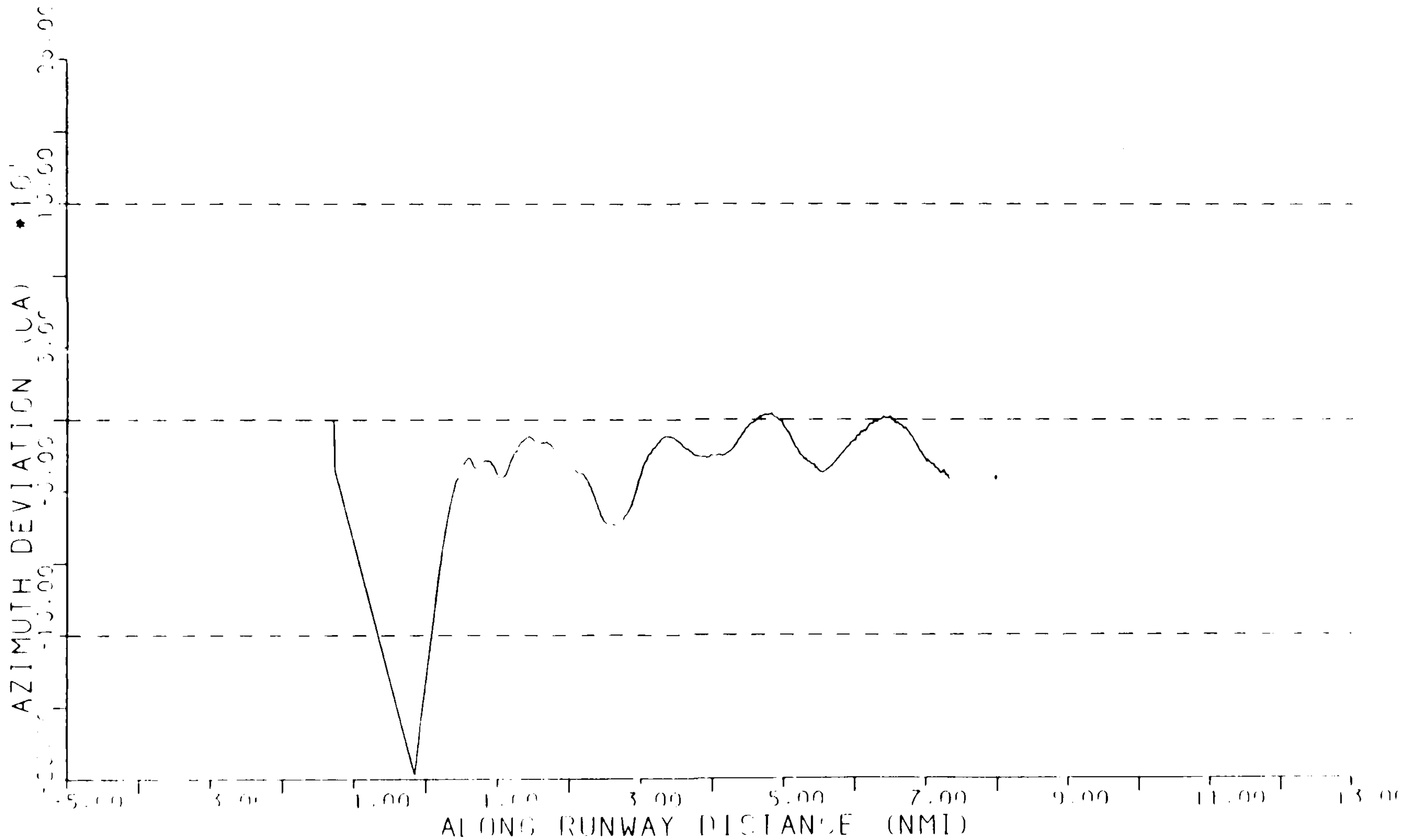



5.00
7.00
9.00
11.00
13.00
ALONG RUNWAY DISTANCE (NMI)

N 37513 PILOTS: STOCKHAUSEN, MCKINNEY DATE: 9/17/85

INPUT FILE.>MFC024... RUN NUMBER > 2
RUN START.>11:10:55...RUN STOP.>11:18:17
3 DEG MAP

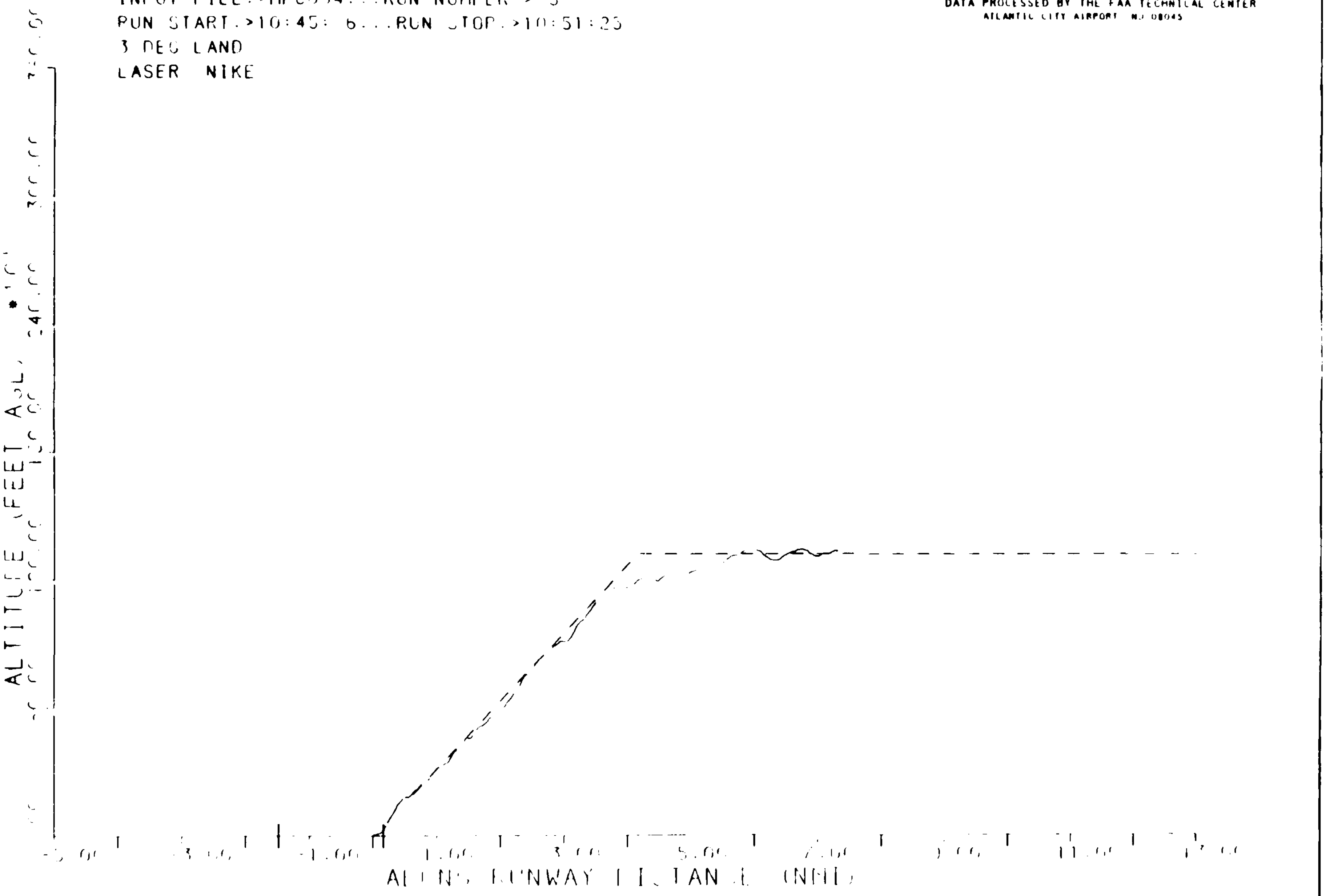
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



N-97613 PILOTS:WILKINSON.AVER DATE: 10/10/86

INPUT FILE.>MFC034....RUN NUMBER > 5
RUN START.>10:45: 6....RUN STOP.>10:51:25
3 DEG LAND
LASER NIKE

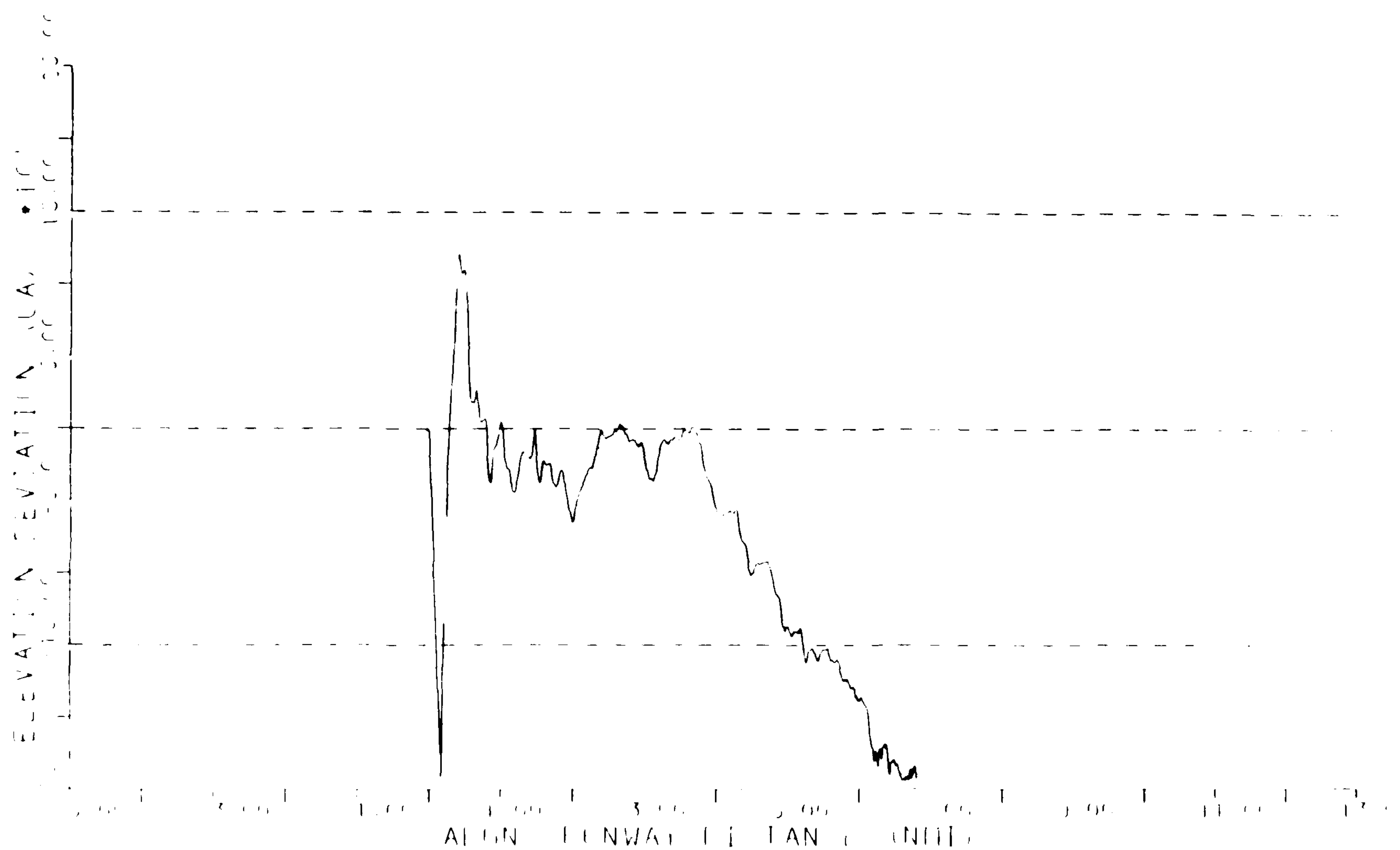
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045

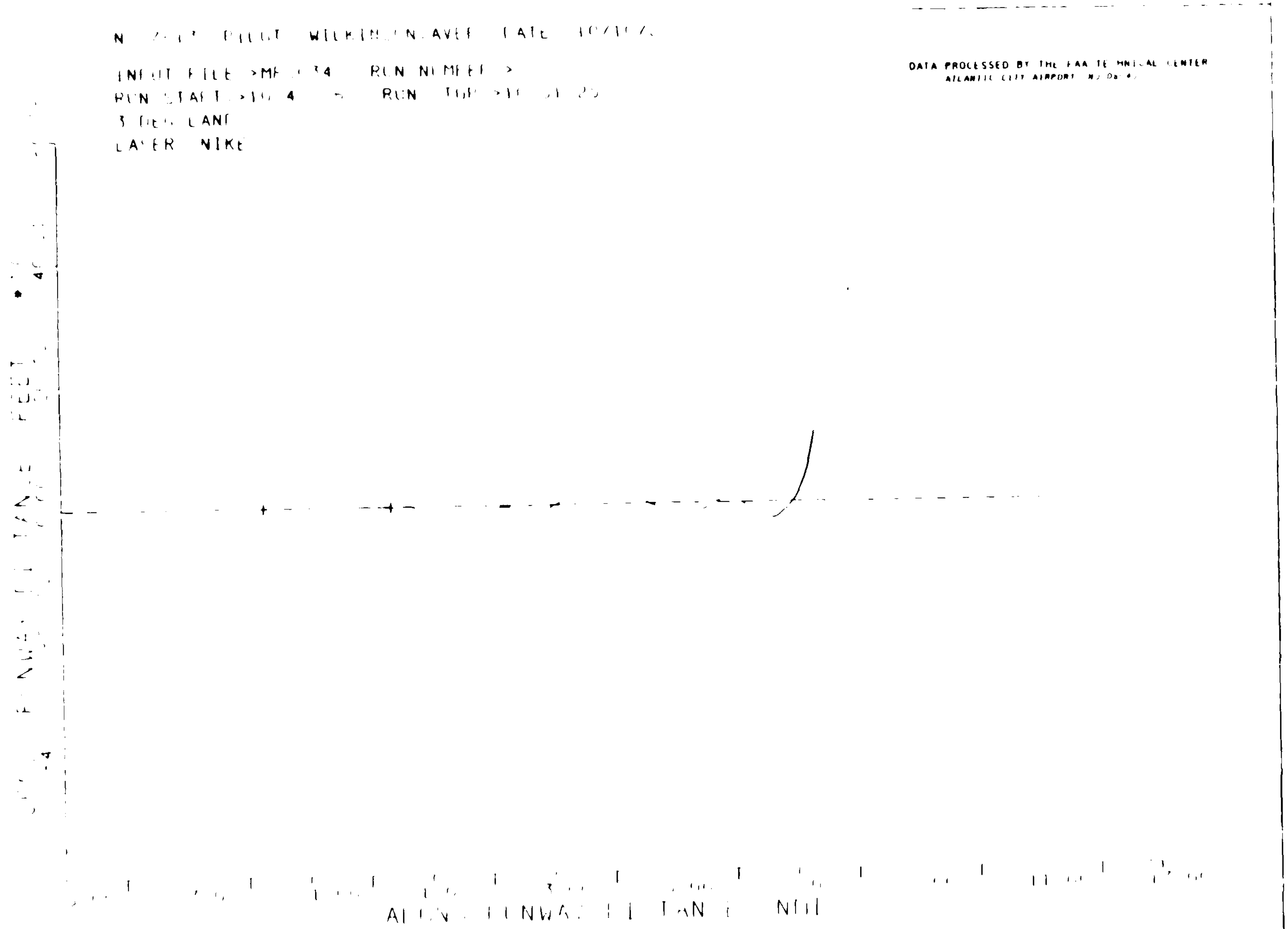


N 97113 PILOTS WILKINSON,AVER DATE: 10/16/85

INPUT FILE:>MFC034...RUN NUMBER:>5
RUN START:>10:43:6...RUN STOP:>10:51:25
3 DEG LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405




DATA PROCESSED BY THE FAA TE HNICAL CENTER

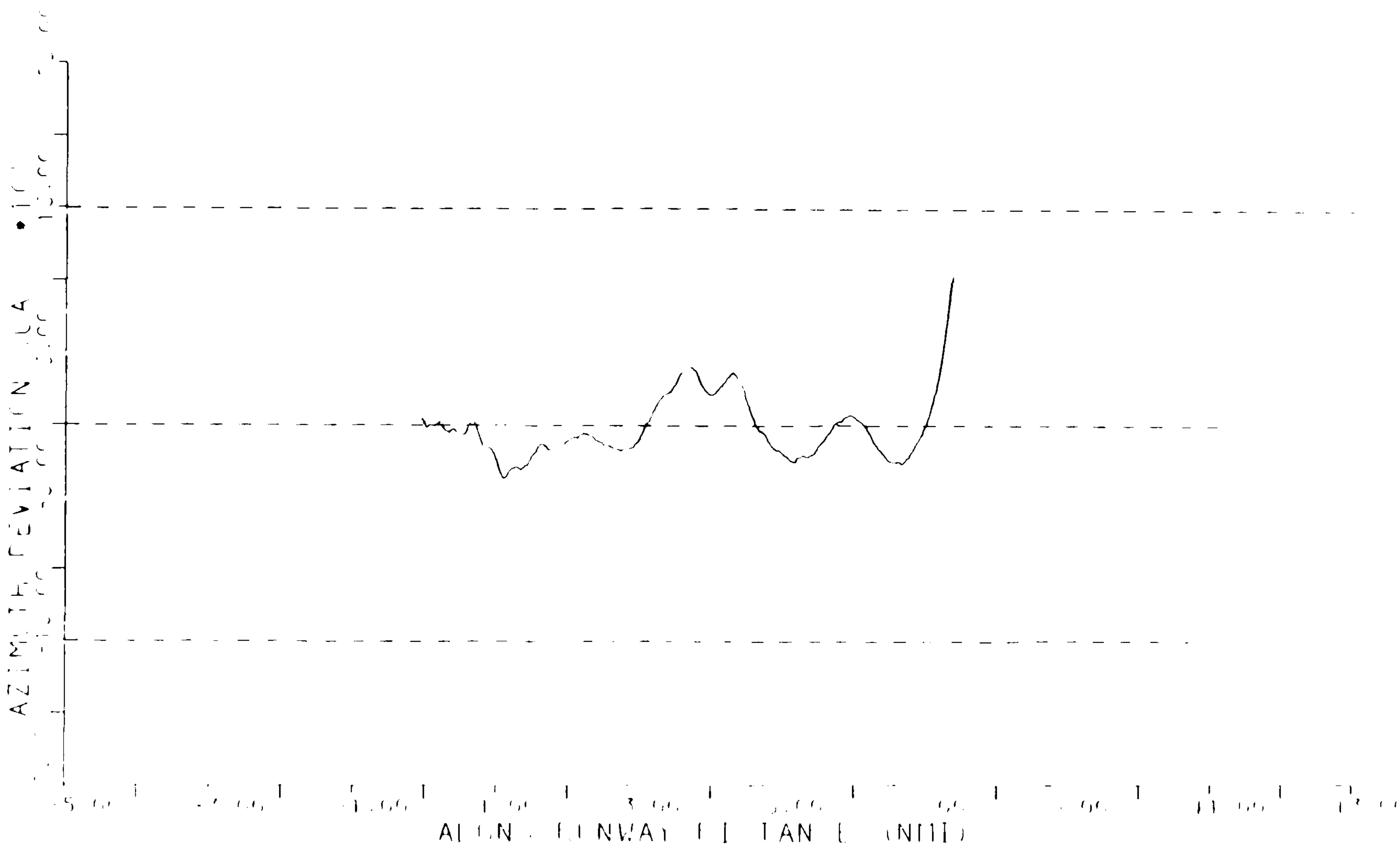
N-D 513 PILOTS WILKIN ON.AVER DATE 10/10/

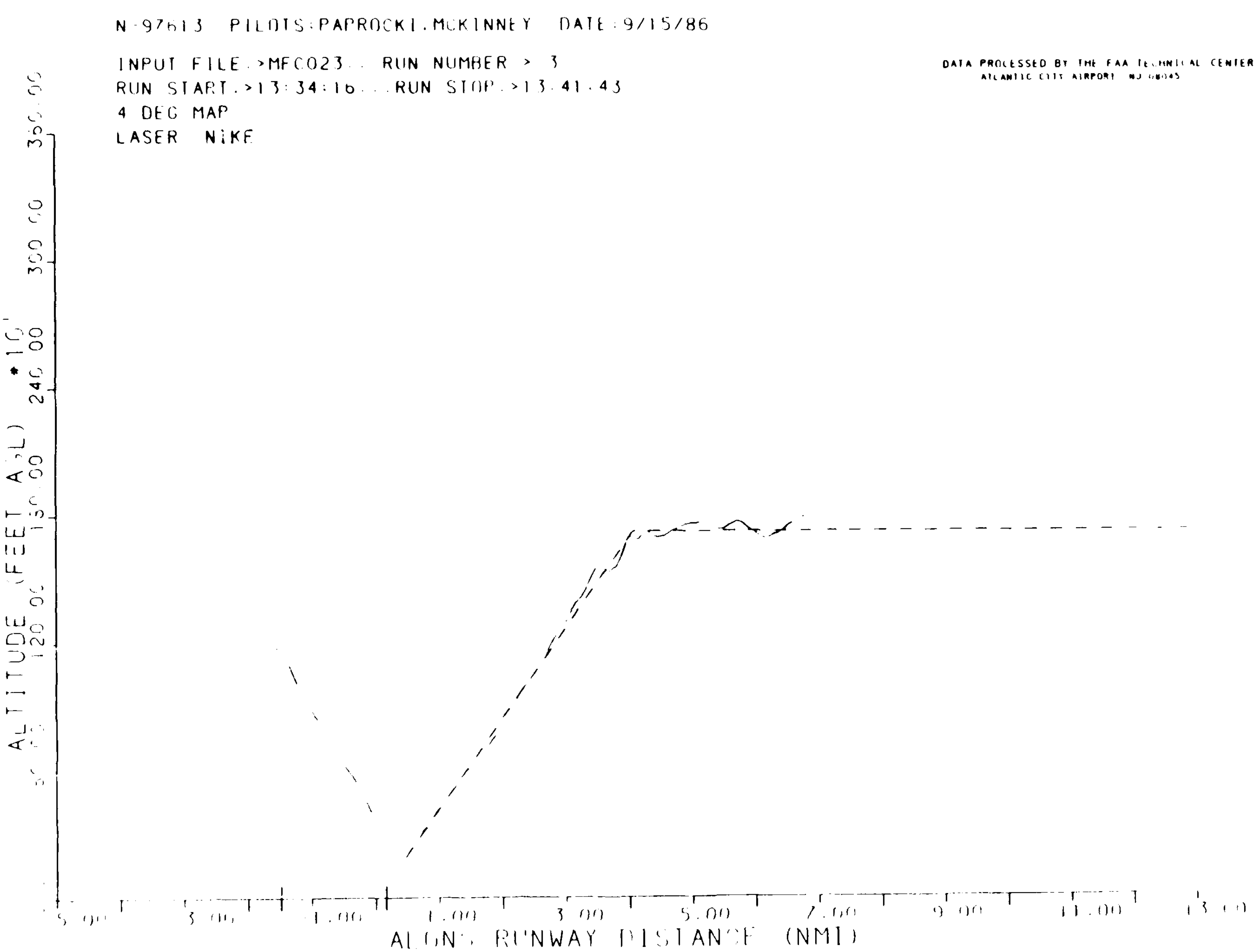
INPUT FILE >MFC 34 RUN NUMBER >

RUN START >10 45 RUN STOP >10 51

3 DEG LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405

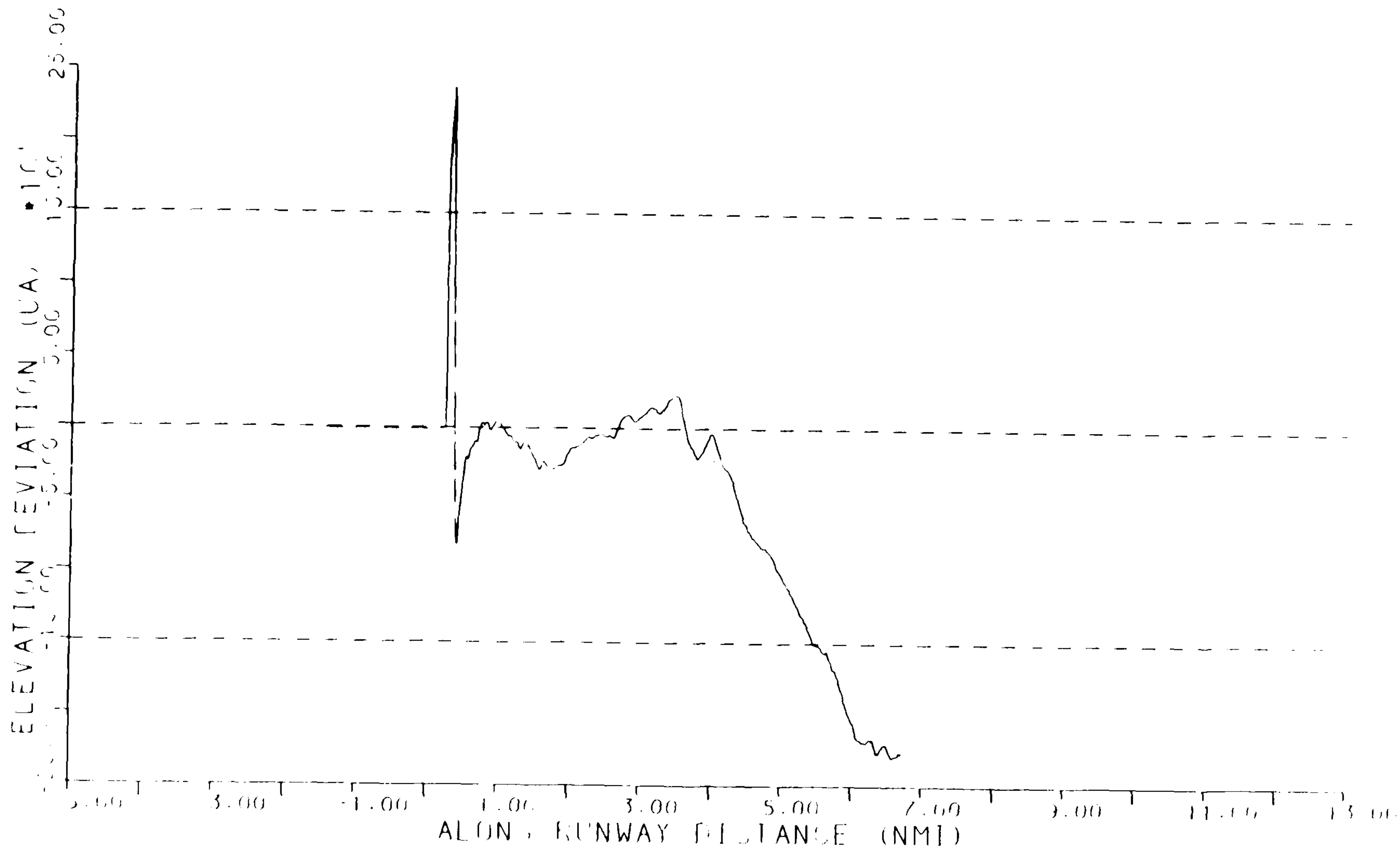



N-97613 PILOTS:PAPROCKI.MCKINNEY DATE:9/15/86
INPUT FILE.>MFC023.. RUN NUMBER > 3
RUN START.>13:34:16...RUN STOP.>13:41:43
4 DEG MAP
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
ALTITUDE (FEET AGL) *10'
120.00
180.00
240.00
300.00
360.00
3.00
1.00
1.00
3.00
5.00
7.00
9.00
11.00
13.00
ALONG RUNWAY DISTANCE (NMI)

N-37513 PILOTS:PAPROCKI,MCKINNEY DATE:0/15/86

INPUT FILE >MFC023 RUN NUMBER > 3
RUN START >13:34:16 RUN STOP >13:41:43
4 DEG MAP

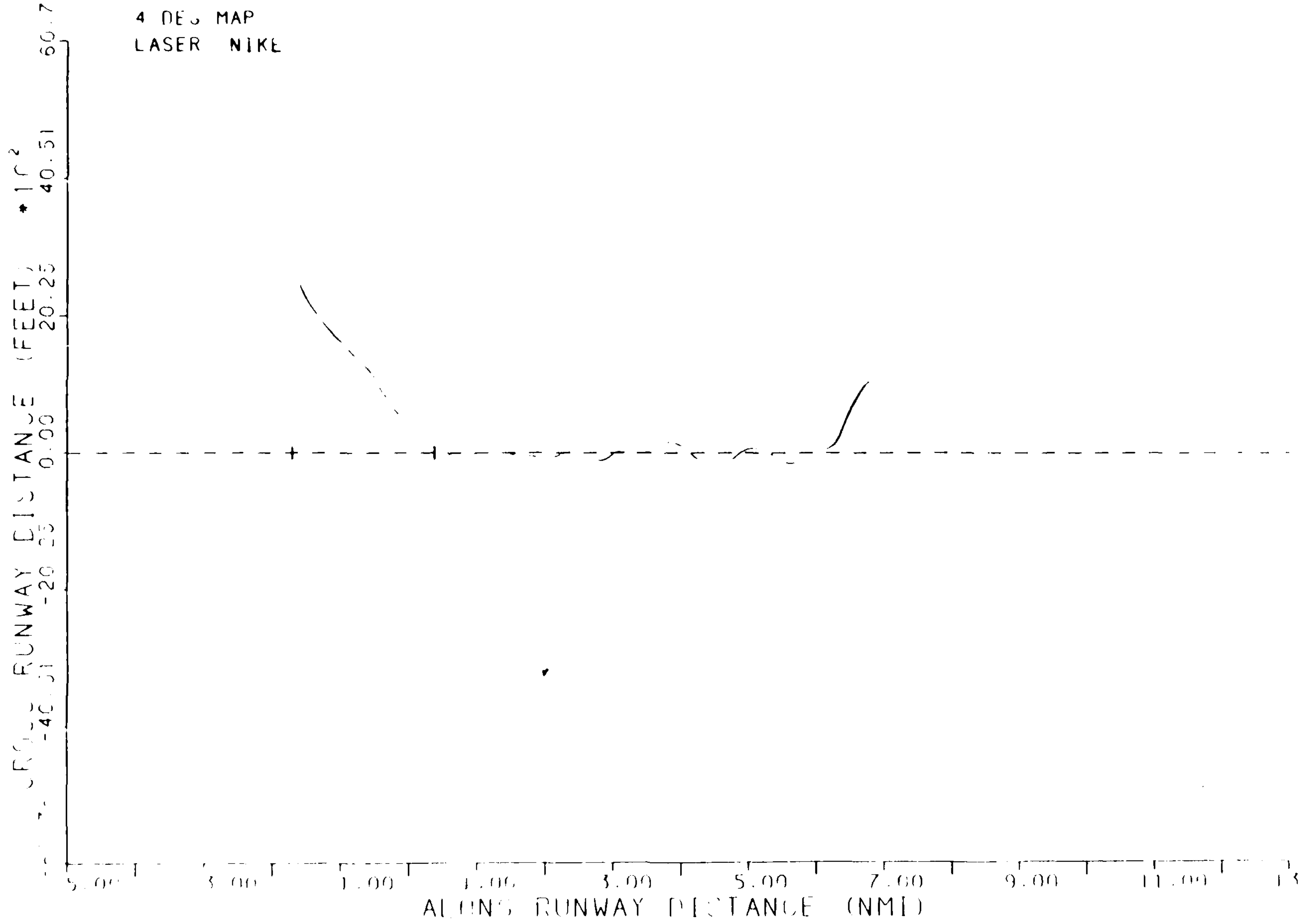
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



N-97613 PILOTS:PAPROCKI.MCKINNEY DATE:9/15/86

INPUT FILE.>MFC023.. RUN NUMBER > 3
RUN START.>13:34:16...RUN STOP.>13:41:43
4 DEG MAP
LASER NIKE

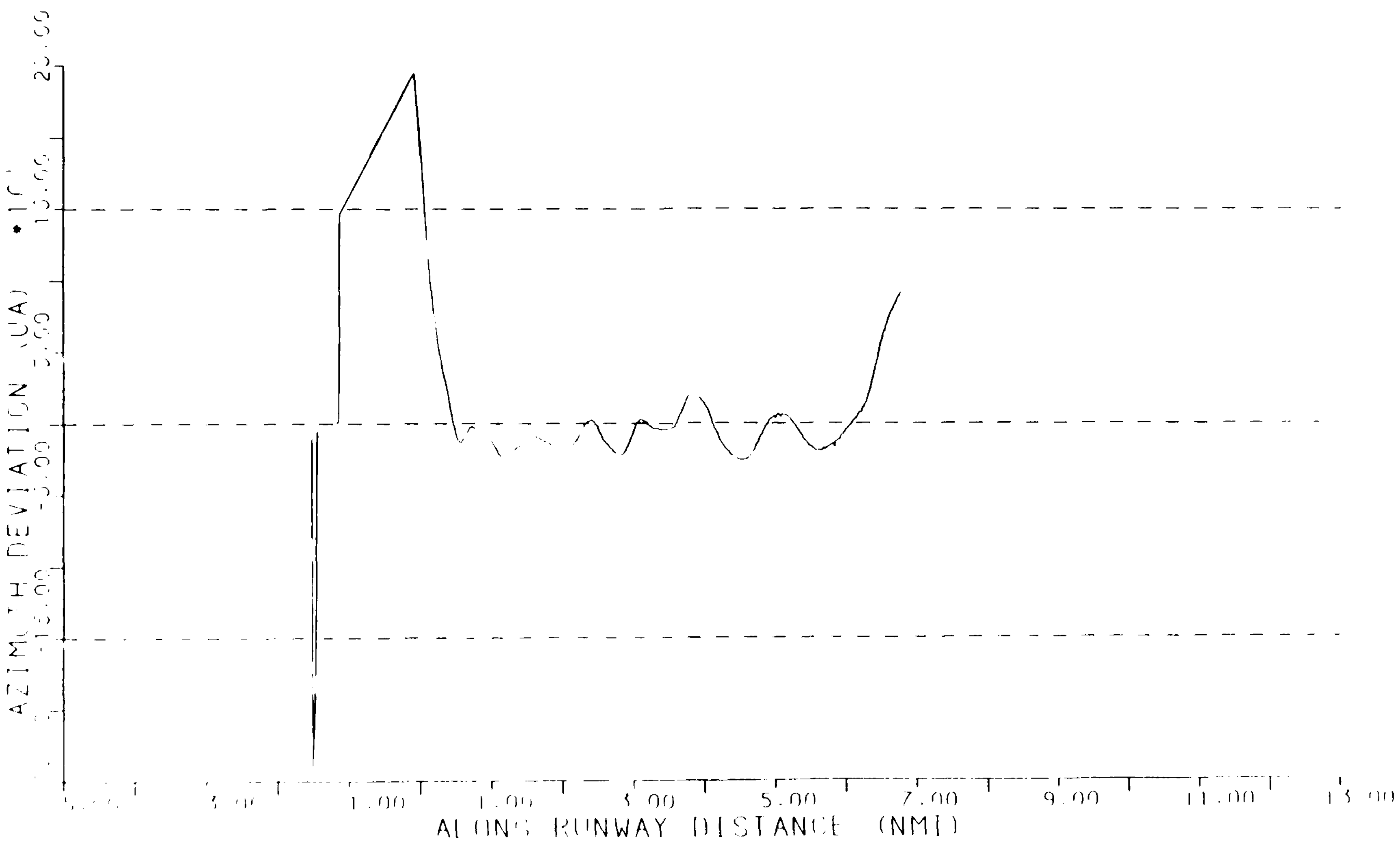
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



N 37513 PILOTS:PAPROCKI,MCKINNEY DATE:9/15/85

INPUT FILE.>MFC023...RUN NUMBER > 3
RUN START.>13:34:16..RUN STOP.>13:41:43
4 DEG MAP

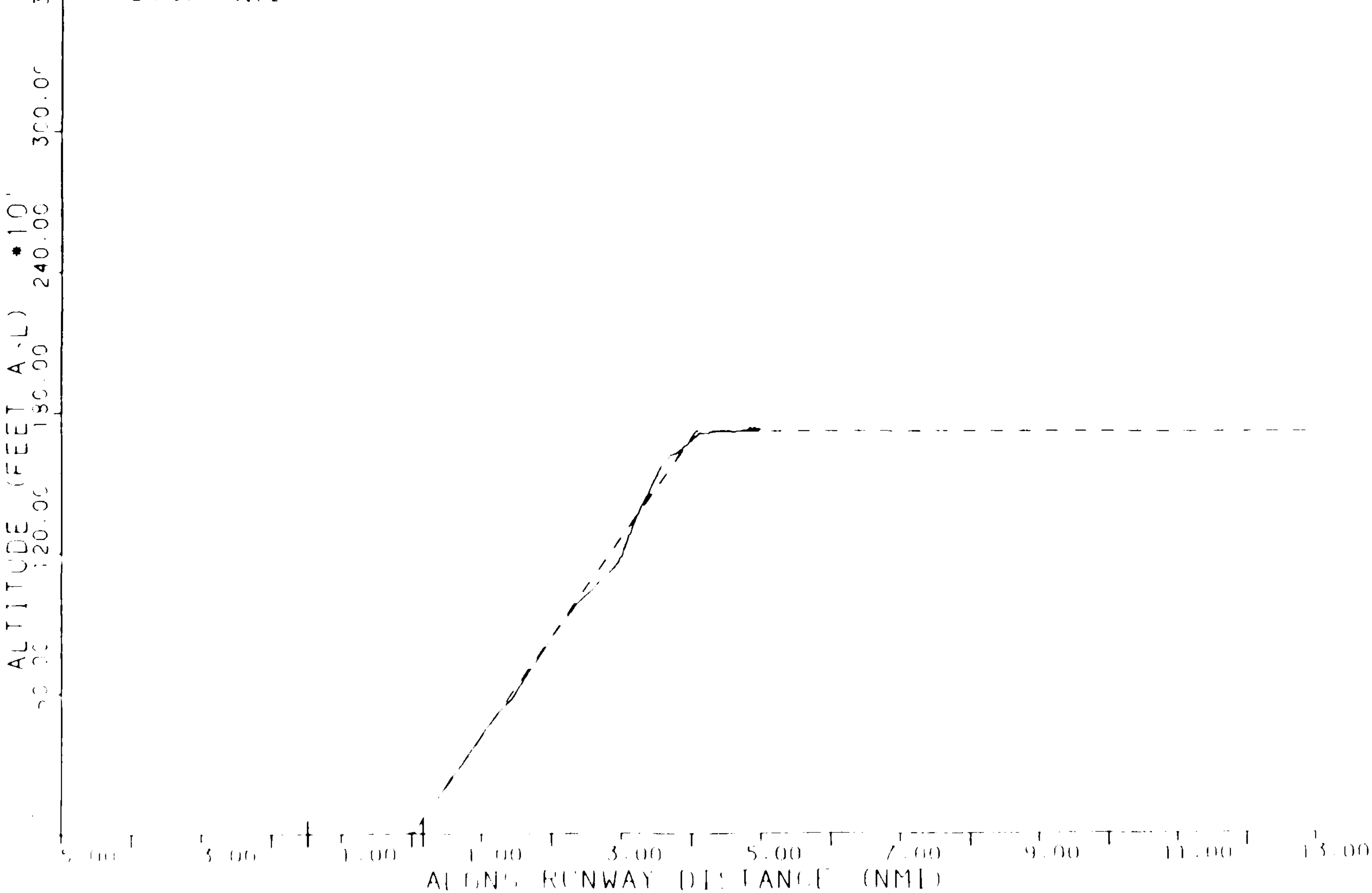
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



N-97613 PILOTS:SCOTT.AVER DATE: 10/16/86

INPUT FILE.>MFC038...RUN NUMBER >15
RUN START.>10:19: 3...RUN STOP.>10:23:10
4 DEG LAND
LASER NIFE

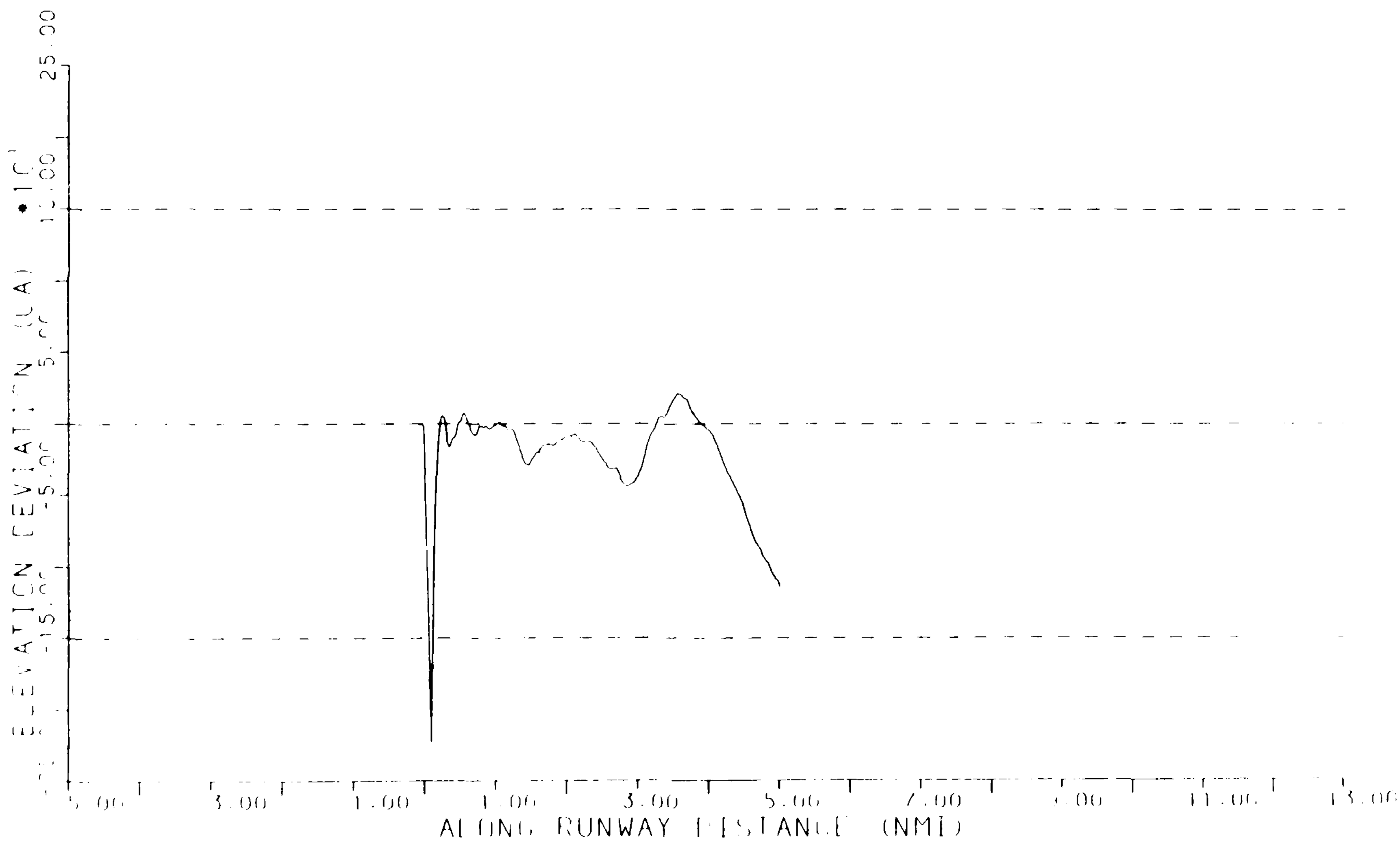
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045

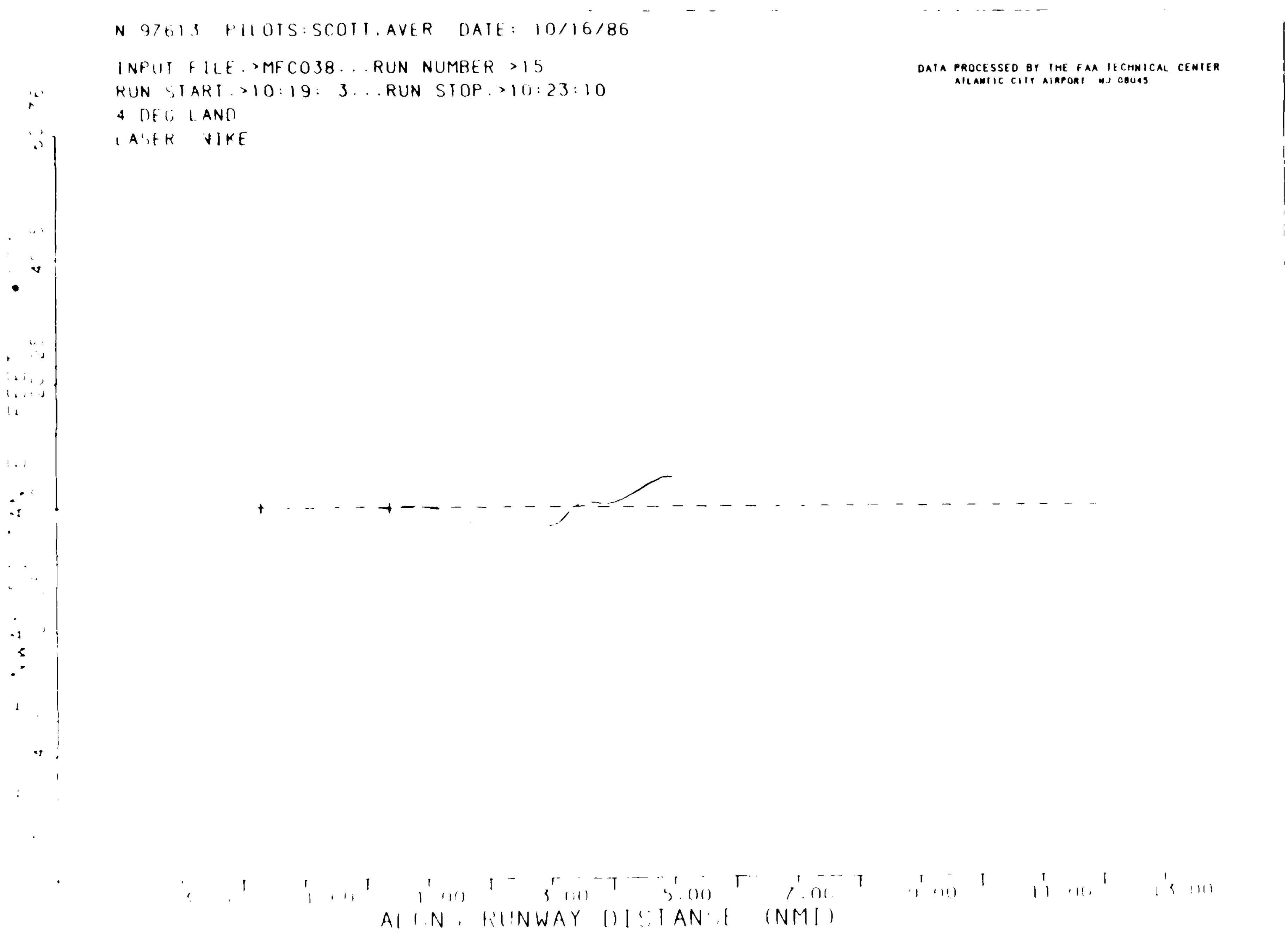


N-97613 PILOTS:SCOTT,AVER DATE: 10/16/86

INPUT FILE.>MFC038...RUN NUMBER >15
RUN START.>10:19: 3...RUN STOP.>10:23:10
4 DEG LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045




N 97613 PILOTS:SCOTT,AVER DATE: 10/16/86
INPUT FILE.>MFC038...RUN NUMBER >15
RUN START.>10:19: 3...RUN STOP.>10:23:10
4 DEG LAND
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045
5.00
7.00
ALONG RUNWAY DISTANCE (NMI)

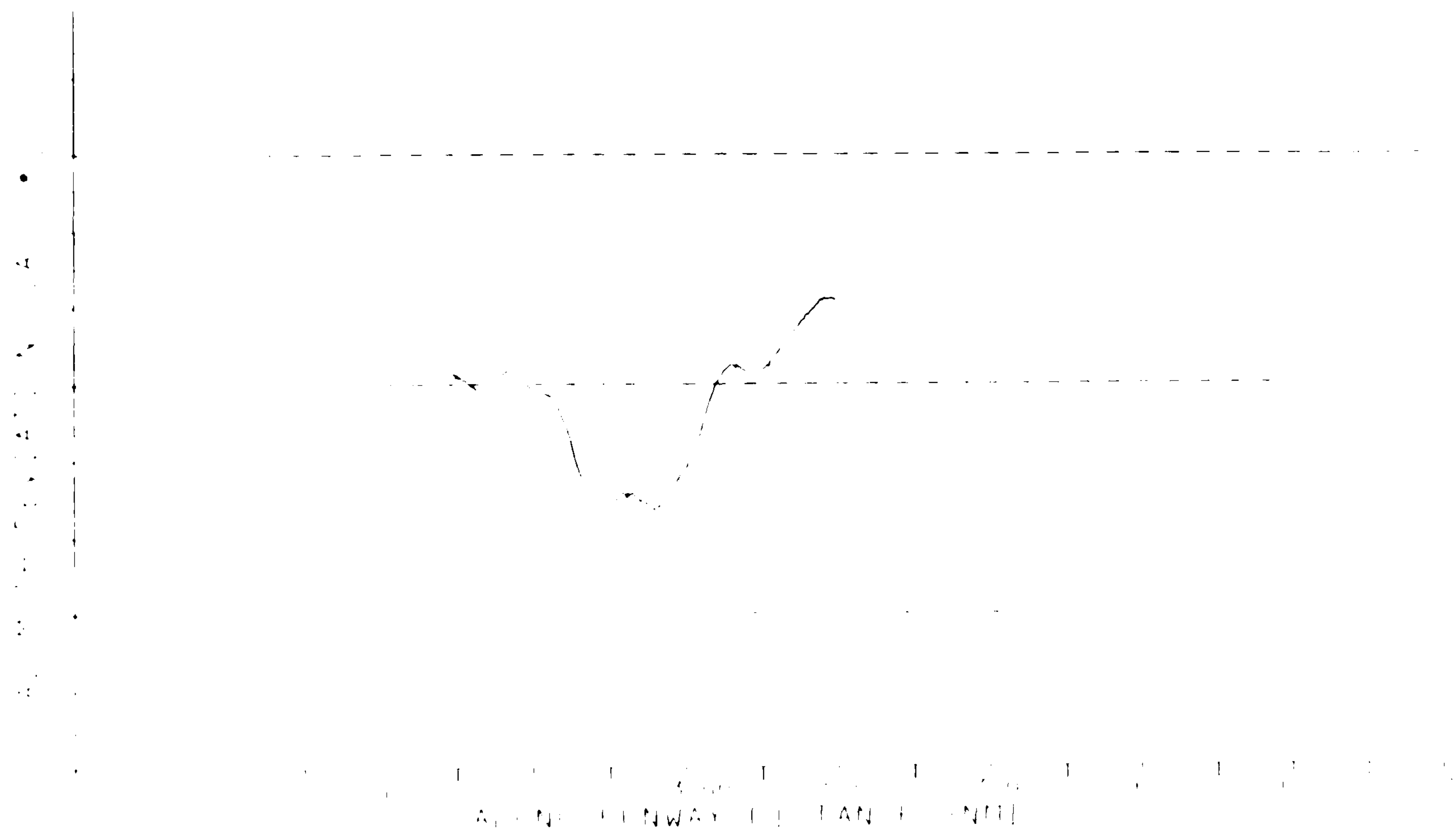
N ... PILOTS:SCOTT.AVER DATE: 10/16/85

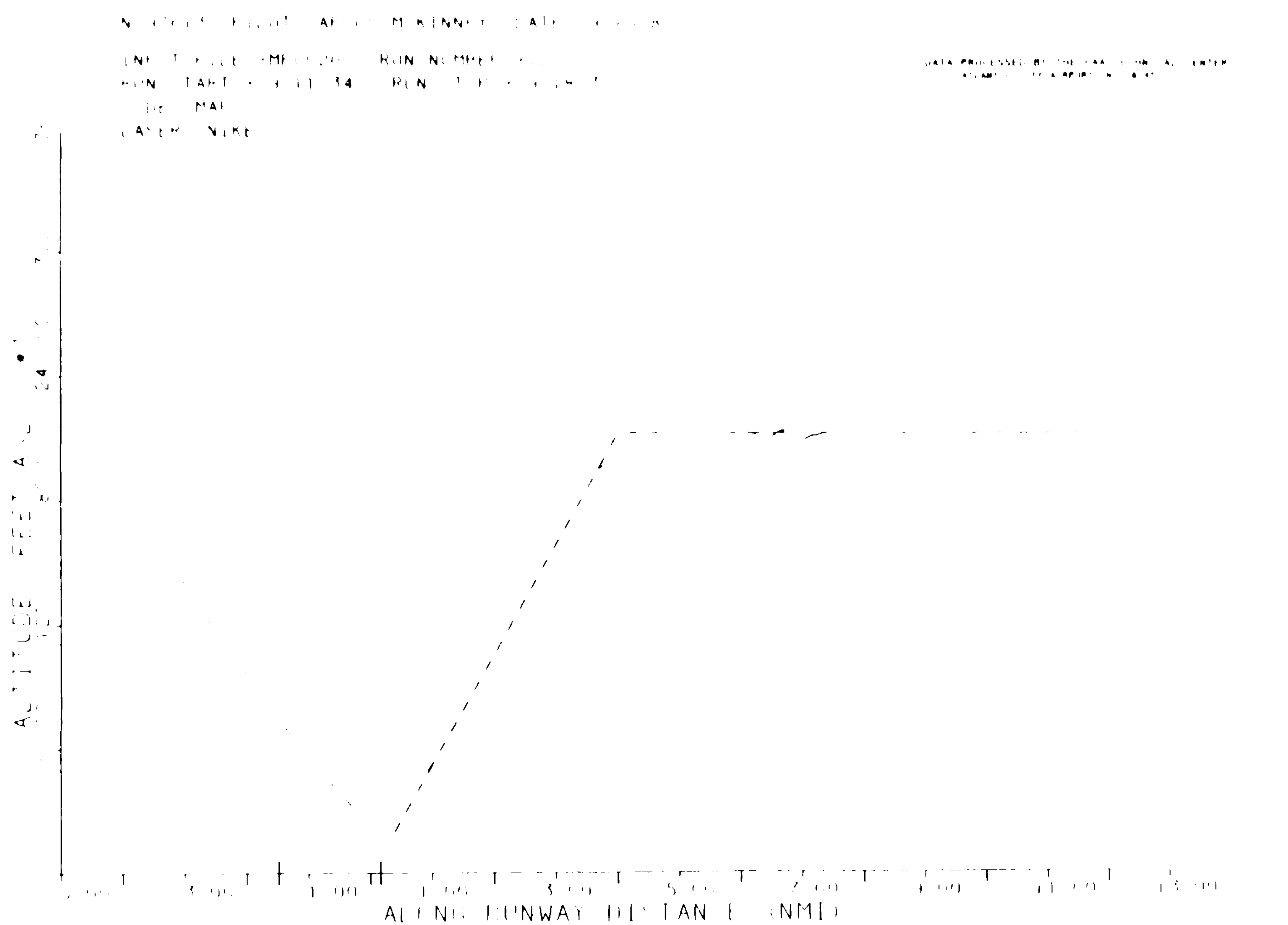
INPUT FILE >MFC038 RUN NUMBER >1.

RUN START >10:19 3.. RUN STOP >10:23:10

4 LEG LANE

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045

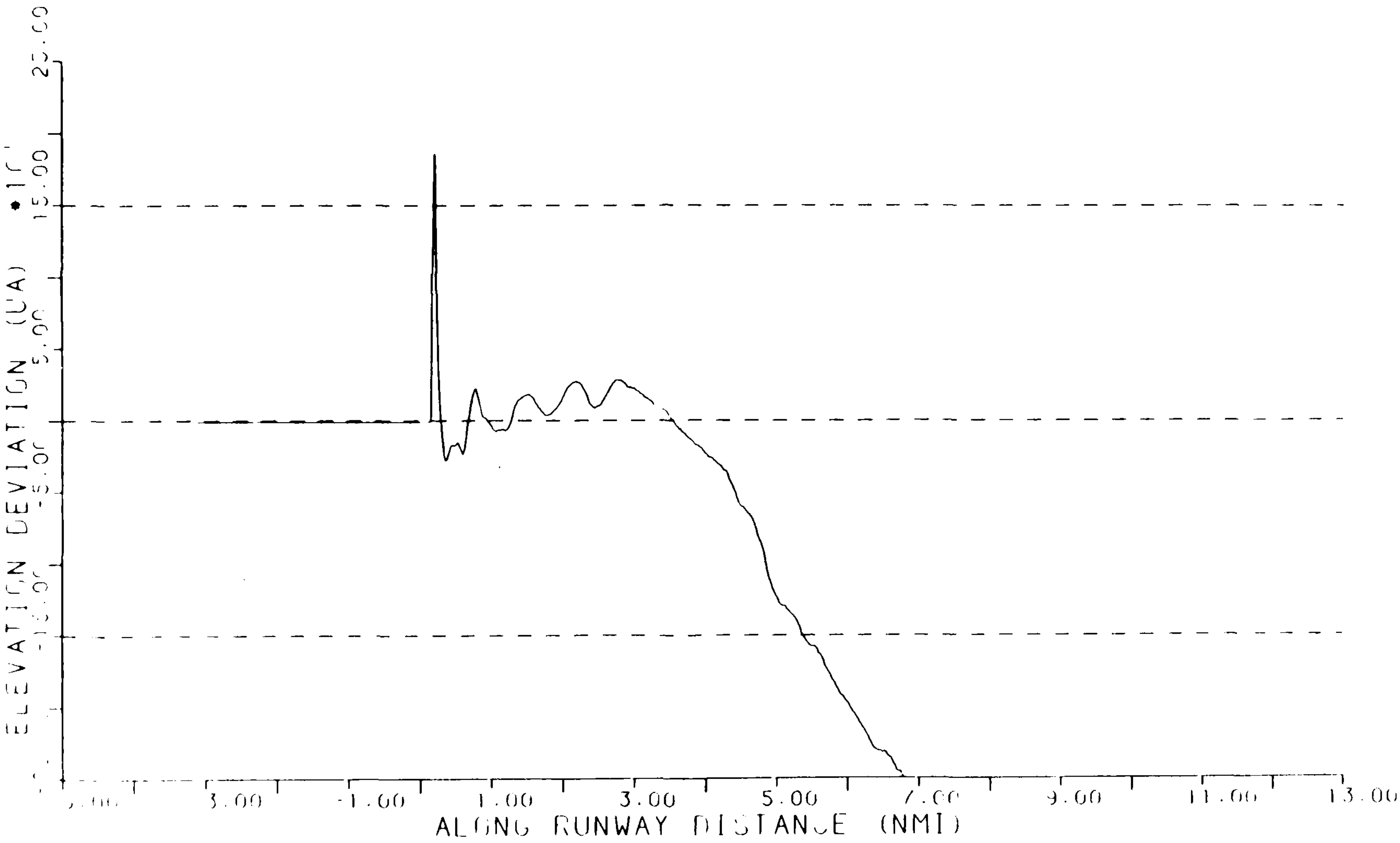



RUN NUMBER
MAP
ALTITUDE FEET
RUNWAY

N-97613 PILOTS: ARGUS, MCKINNEY DATE: 9/10/86

INPUT FILE >MFC020 RUN NUMBER >12
RUN START > 9:11:34... RUN STOP > 9:18:30
5 DEG MAP

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



N-97613 PILOTS-ARGUS.MCKINNEY DATE: 9/16/86

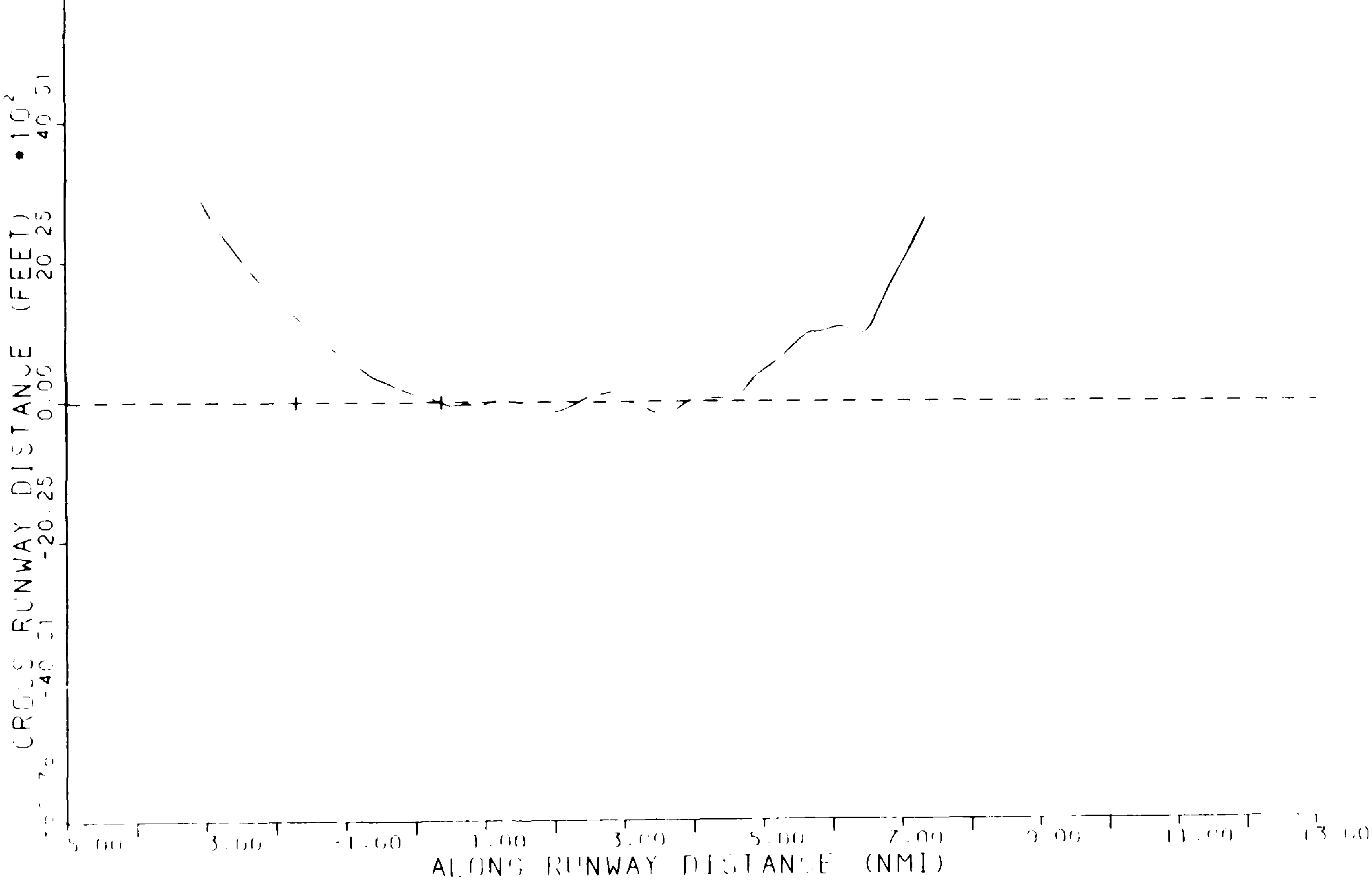
INPUT FILE->MFC020 . RUN NUMBER >12

RUN START-> 9:11:34...RUN STOP > 9:18:30

5 DEG MAP

LASER NIKE

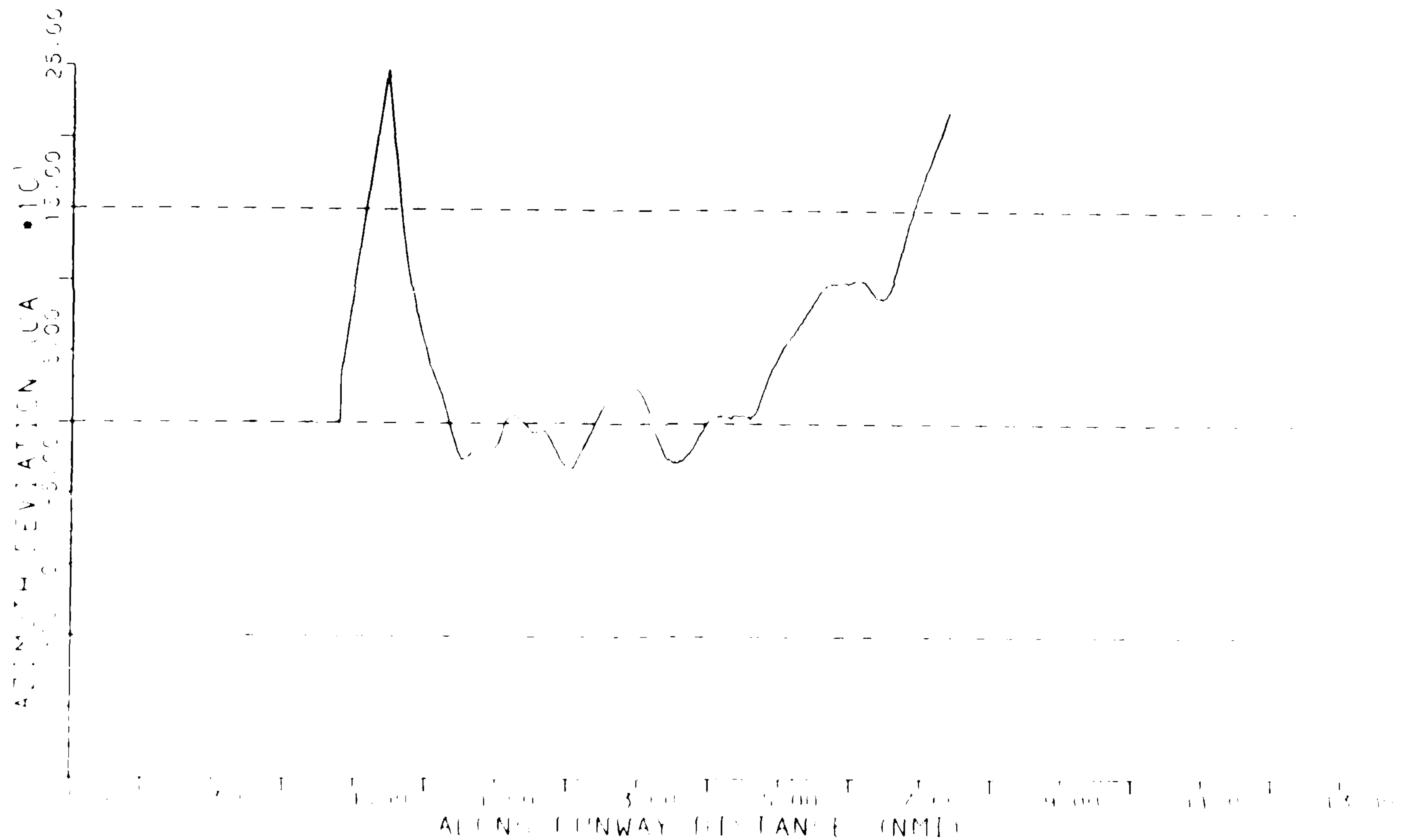
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



N 97513 PILOTS-ARGUS.MCKINNEY DATE 3/10/85

INPUT FILE->MFC020 ..RUN NUMBER >12
RUN START.> 9:11:34.. RUN STOP > 9:18:30
5 DEG MAP

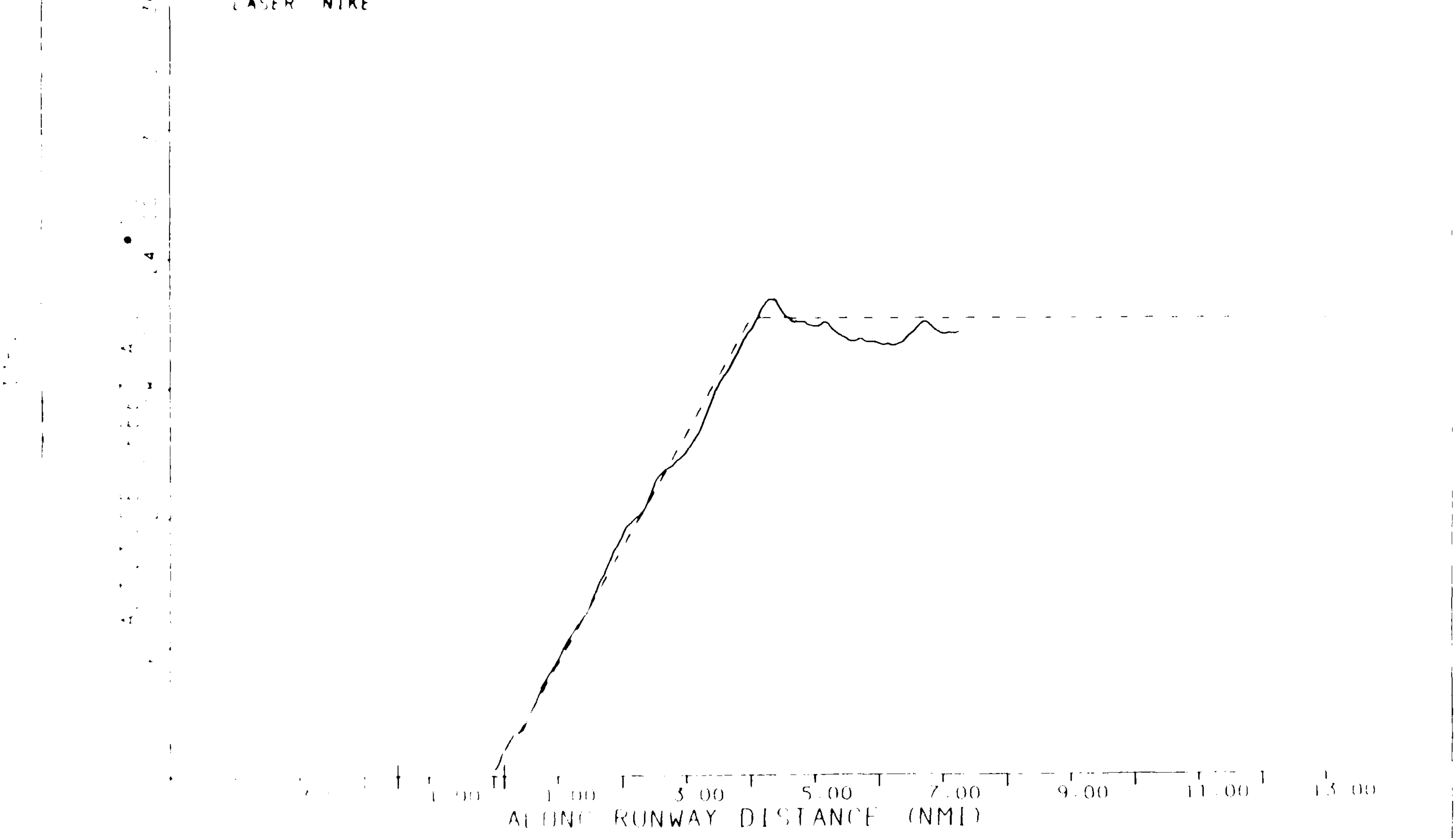
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



N 97613 PILOTS HACKLER,MCKINNEY DATE 8/24/86

INPUT FILE >MFC049 RUN NUMBER >10
RUN START >10:31:13 RUN STOP >10:38:10
5 DEG LAND
LASER NIKE

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



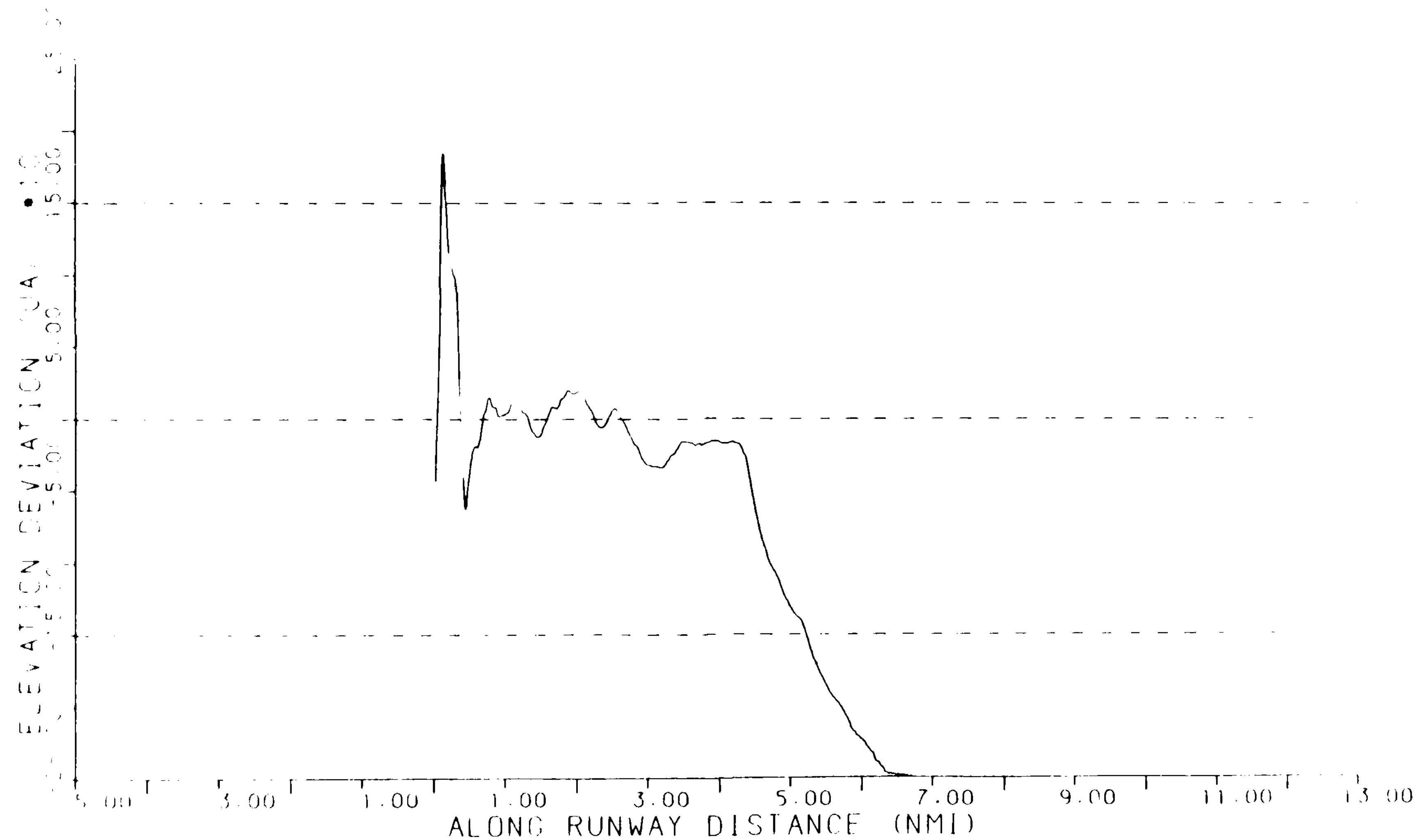
N [illegible] PILOTS HACKLER.MCKINNEY DATE 8/24/86

INPUT FILE >MFC049 RUN NUMBER >10

RUN START >10:31:13 RUN STOP >10:38:10

[illegible] DEG LAND

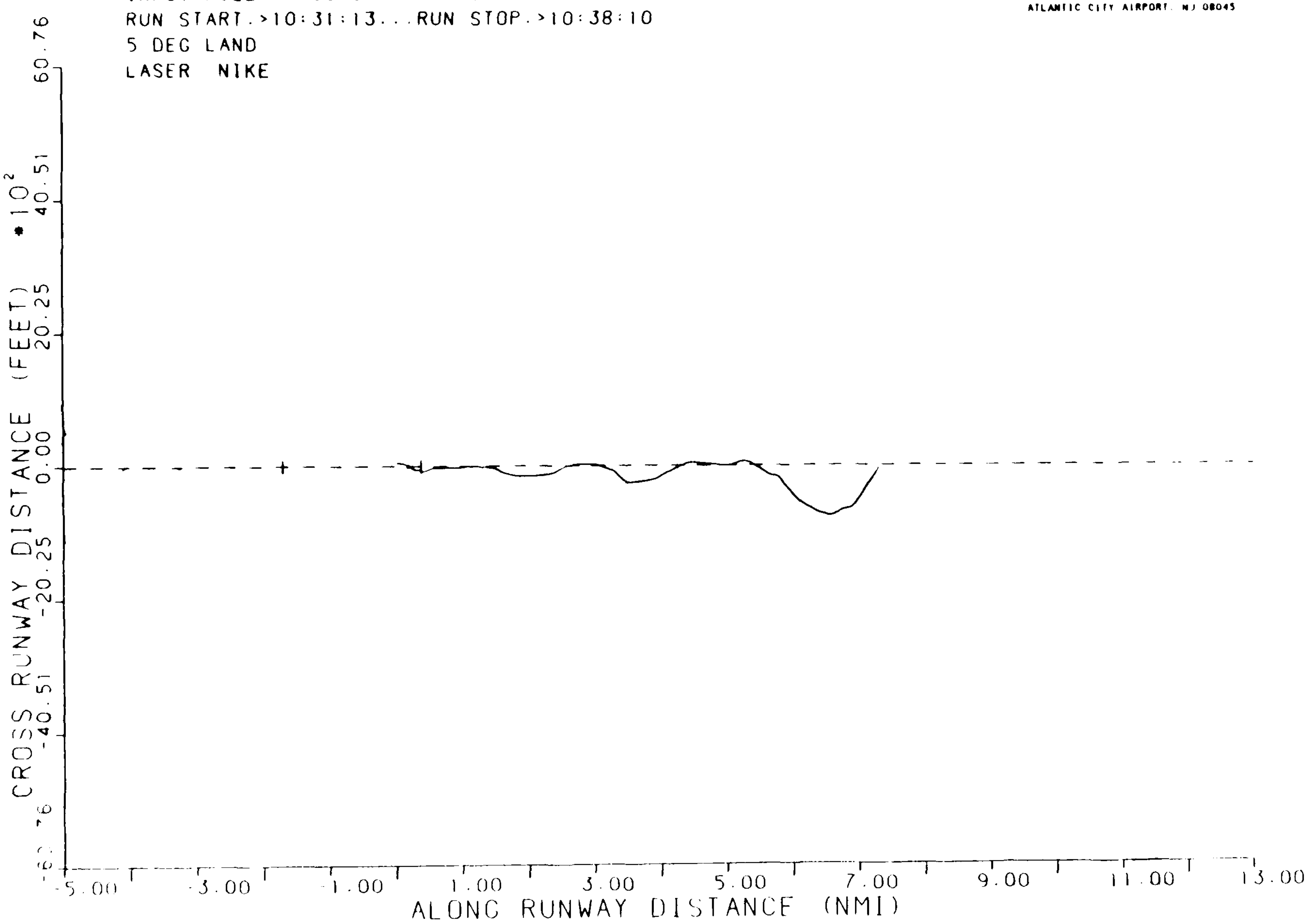
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



N-97613 PILOTS:HACKLER, MCKINNEY DATE: 8/24/86

INPUT FILE.>MFC049...RUN NUMBER >10
RUN START.>10:31:13...RUN STOP.>10:38:10
5 DEG LAND
LASER NIKE

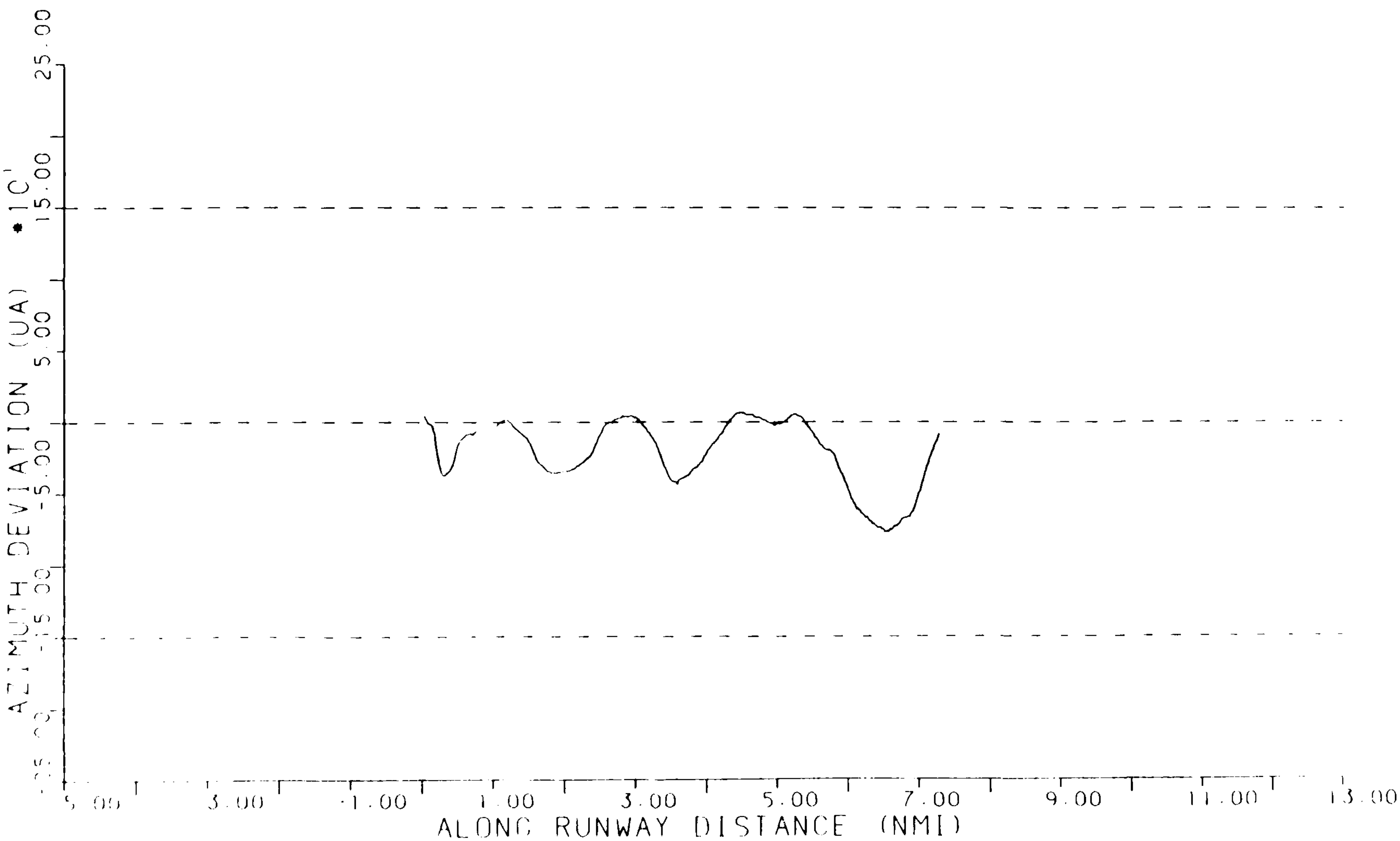
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08045



N-97613 PILOTS:HACKLER.MCKINNEY DATE: 8/24/86

INPUT FILE.>MFC049... RUN NUMBER >10
RUN START.>10:31:13... RUN STOP.>10:38:10
5 DEC LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08045



APPENDIX E

SAMPLE SUMMARY STATISTICS PRINTOUTS

C-172 3 DEGREE MLS APPRCACH
COMPCSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
26713.59	70.	-85.069	76.753	-2.998	17.970	276
26586.82	70.	-80.229	75.281	-3.107	18.900	275
26423.00	70.	-74.147	73.299	-3.299	20.283	274
26259.18	70.	-68.710	71.477	-3.457	21.517	273
26095.36	70.	-62.988	70.084	-3.580	22.506	272
25931.55	70.	-58.284	69.045	-3.711	23.626	271
25767.73	70.	-53.812	68.780	-3.707	23.628	270
25603.91	70.	-49.054	68.076	-3.697	23.881	269
25440.10	70.	-44.642	67.819	-3.688	24.362	268
25276.28	70.	-40.726	67.587	-3.621	24.751	267
25112.46	70.	-37.139	66.812	-3.524	24.432	266
24948.64	70.	-33.999	66.442	-3.474	24.609	265
24784.83	70.	-31.440	65.445	-3.397	24.630	264
24621.01	70.	-29.444	64.552	-3.370	24.706	263
24457.19	71.	-27.650	62.541	-3.384	25.093	262
24293.38	70.	-27.642	61.701	-3.272	24.142	261

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
24129.56	70.	-27.390	60.119	-3.203	23.214	260
23965.74	71.	-26.589	58.124	-3.265	23.456	259
23801.92	71.	-25.699	56.649	-3.219	22.652	258
23638.11	71.	-26.128	55.545	-3.152	21.652	257
23474.29	71.	-25.466	54.767	-3.021	20.510	256
23310.47	71.	-24.487	54.792	-2.764	18.484	255
23146.65	71.	-23.867	54.611	-2.539	16.784	254
22982.84	71.	-23.296	54.037	-2.315	15.243	253
22819.02	71.	-22.579	53.185	-2.111	13.862	252
22655.20	71.	-21.945	52.523	-1.837	12.372	251
22491.39	71.	-21.465	52.394	-1.588	10.949	250
22327.57	71.	-20.816	51.868	-1.377	9.920	249
22163.75	71.	-19.733	51.336	-1.196	9.496	248
21999.93	71.	-18.546	50.219	-1.001	9.034	247
21836.12	71.	-17.724	49.175	-0.892	8.625	246
21672.30	71.	-16.568	47.703	-0.819	3.535	245

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
21508.48	71.	-14.761	46.545	-0.747	8.476	244
21344.67	71.	-13.814	45.143	-0.660	8.348	243
21180.85	71.	-13.336	44.467	-0.621	7.962	242
21017.03	71.	-12.766	43.978	-0.552	7.712	241
20853.21	71.	-12.601	43.529	-0.423	7.147	240
20689.40	71.	-12.786	43.639	-0.319	6.495	239
20525.58	71.	-13.153	43.554	-0.292	6.099	238
20361.76	71.	-13.199	43.089	-0.272	5.478	237
20197.95	71.	-13.049	42.707	-0.300	4.980	236
20034.13	71.	-13.075	42.153	-0.338	4.452	235
19870.31	71.	-13.458	40.982	-0.430	4.250	234
19706.49	71.	-13.177	39.816	-0.470	3.956	233
19542.68	71.	-12.978	38.696	-0.359	3.643	232
19378.86	71.	-13.350	37.322	-0.227	3.345	231
19215.04	71.	-13.524	36.252	-0.316	3.093	230
19051.22	71.	-13.912	35.365	0.166	3.035	229

[illegible] MLS APPROACH
COMPOSITE DATA FILE [illegible]
DECISION HEIGHT [illegible] FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
18887.41	71.	-14.026	34.314	0.324	3.071	228
18723.59	71.	-14.263	33.421	0.460	3.261	227
18559.77	71.	-13.934	33.406	0.556	3.525	226
18395.96	71.	-13.332	33.399	0.615	3.748	225
18232.14	71.	-12.614	33.447	0.601	3.853	224
18068.32	71.	-12.484	33.668	0.613	4.019	223
17904.51	71.	-12.529	33.363	0.610	4.227	222
17740.69	71.	-12.534	34.774	0.680	4.600	221
17576.87	71.	-12.351	36.143	0.823	4.934	220
17413.05	71.	-11.477	37.320	0.997	5.387	219
17249.24	71.	-10.571	38.614	1.142	5.326	218
17085.42	71.	-10.128	39.196	1.287	6.279	217
16921.60	71.	-10.250	39.507	1.344	6.513	216
16757.79	71.	-9.984	39.634	1.423	6.725	215
16593.97	71.	-9.523	40.139	1.459	6.621	214
16430.15	71.	-9.601	40.134	1.576	6.704	213

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2[illegible]
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
16266.33	71.	-9.236	39.877	1.595	6.997	212
16102.52	71.	-8.259	39.782	1.685	7.213	211
15938.70	71.	-7.811	39.965	1.706	7.027	210
15774.88	71.	-7.818	39.912	1.794	7.572	209
15611.06	71.	-7.881	39.634	1.864	8.189	208
15447.25	71.	-7.872	39.921	2.076	9.100	207
15283.43	70.	-8.286	39.834	2.182	9.479	206
15119.61	70.	-9.201	38.887	2.270	10.609	205
14955.80	70.	-9.921	38.166	2.261	10.676	204
14791.98	70.	-10.757	38.245	2.297	10.45[illegible]	203
14628.16	70.	-10.872	38.500	[illegible]	9.784	202
14464.34	70.	-10.92[illegible]	38.84[illegible]	[illegible]	[illegible]	[illegible]
14300.53	70.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14136.71	70.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13972.89	70.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13809.08	70.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

- -

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

- -

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
13645.26	70.	-6.932	38.766	1.931	10.628	196
13481.44	70.	-8.977	39.189	2.137	12.642	195
13317.62	70.	-6.855	39.537	2.241	13.766	194
[illegible]	70.	-8.466	40.001	2.230	13.886	193
12989.99	70.	-7.850	39.830	2.166	13.621	192
12826.17	71.	-7.897	39.145	1.958	12.291	191
12662.36	71.	-7.870	38.760	1.866	11.405	190
12498.54	71.	-7.453	38.025	1.853	10.943	189
12334.72	71.	-6.414	37.267	1.845	10.690	188
[illegible]	71.	-5.603	36.977	1.823	10.371	187
[illegible]	71.	-5.471	36.648	1.812	10.030	186
[illegible]	71.	-4.957	35.822	1.787	9.452	185
[illegible]	71.	[illegible]	34.645	1.711	8.697	184
[illegible]	71.	[illegible]	33.642	1.605	7.931	183
[illegible]	71.	[illegible]	32.742	1.448	6.868	182
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
11024.18	71.	-8.310	31.375	1.180	5.619	180
10860.37	71.	-9.154	29.908	1.017	4.758	179
10696.55	69.	-8.841	27.863	0.855	4.136	178
10532.73	69.	-8.913	26.364	0.759	3.909	177
10368.92	69.	-8.886	25.105	0.696	4.017	176
10205.10	69.	-8.800	23.708	0.612	4.232	175
10041.28	69.	-8.754	22.462	0.519	4.317	174
9877.46	69.	-8.821	22.105	0.384	3.989	173
9713.65	69.	-9.095	22.101	0.255	3.747	172
9549.83	69.	-9.785	22.392	0.237	3.579	171
9386.01	69.	-10.319	22.525	0.294	3.535	170
9222.19	69.	-10.593	22.106	0.461	4.171	169
9058.38	69.	-10.592	22.097	0.296	3.770	168
8894.56	69.	-11.020	22.246	0.203	4.016	167
8730.74	69.	-11.523	21.783	0.274	4.530	166
8566.93	69.	-11.443	21.044	0.343	4.544	165

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
8403.11	69.	-11.223	20.508	0.469	4.284	164
8239.29	69.	-11.121	21.018	0.513	4.193	163
8075.47	69.	-11.235	21.389	0.553	4.405	162
7911.66	69.	-10.397	20.879	0.538	4.782	161
7747.84	69.	-9.375	20.299	0.616	4.858	160
7584.02	69.	-8.220	19.694	0.706	4.698	159
7420.21	69.	-7.417	19.751	0.809	4.855	158
7256.39	69.	-6.309	20.262	0.938	5.649	157
7092.57	69.	-5.167	20.181	1.361	7.283	156
6928.75	69.	-3.832	19.946	1.778	9.313	155
6764.94	69.	-3.637	20.046	2.012	10.574	154
6601.12	69.	-3.343	20.511	1.904	9.696	153
6437.30	69.	-3.666	20.775	1.613	8.298	152
6273.48	69.	-4.653	20.504	1.395	7.295	151
6109.67	68.	-4.587	20.320	1.23[illegible]	6.43[illegible]	150
5945.85	68.	-4.747	19.26[illegible]	1.146	[illegible]	149

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

ELEVATION TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
5782.03	68.	-4.955	17.568	1.220	6.210	148
5618.22	68.	-4.686	16.373	1.118	5.666	147
5454.40	68.	-3.496	16.050	0.986	4.611	146
5290.58	68.	-2.993	16.080	0.960	4.246	145
5126.76	68.	-2.436	16.617	0.922	4.225	144
4962.95	68.	-1.886	17.070	0.994	4.595	143
4799.13	68.	-1.737	16.917	0.904	4.352	142
4635.31	68.	-1.391	16.812	0.996	4.268	141
4471.50	68.	-1.032	16.301	1.066	4.612	140
4307.68	68.	-0.218	16.399	0.969	4.011	139
4143.86	68.	1.492	18.008	1.000	3.527	138
3980.04	68.	4.446	22.127	1.368	4.932	137

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
26713.59	70.	-25.292	161.063	0.243	4.606	276
26586.82	70.	-27.964	160.960	0.272	4.780	275
26423.00	70.	-31.365	160.053	0.328	4.966	274
26259.18	70.	-33.932	158.996	0.415	5.095	273
26095.36	70.	-36.214	158.078	0.534	5.211	272
25931.55	70.	-38.627	157.319	0.655	5.265	271
25767.73	70.	-40.660	155.488	0.765	5.257	270
25603.91	70.	-42.824	153.694	0.832	5.197	269
25440.10	70.	-44.459	150.667	0.870	5.033	268
[illegible]	70.	[illegible]	[illegible]	0.845	[illegible]	[illegible]
[illegible]	70.	-46.53[illegible]	14[illegible].436	0.769	[illegible]	266
[illegible]	70.	-47.[illegible]	[illegible]	0.64[illegible]	[illegible]	265
[illegible]	70.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
24129.56	70.	-52.584	129.865	0.070	2.268	260
23965.74	71.	-54.774	126.144	0.035	2.176	259
23801.92	71.	-56.117	123.306	0.009	2.143	258
23638.11	71.	-57.584	120.093	0.023	2.184	257
23474.29	71.	-58.959	116.902	0.062	2.364	256
23310.47	71.	-60.537	115.528	0.148	2.655	255
23146.65	71.	-61.529	115.558	0.275	3.089	254
22982.84	71.	-62.743	116.420	0.392	3.430	253
22819.02	71.	-63.512	118.377	0.482	3.735	252
[illegible]	71.	[illegible]	[illegible]	[illegible]	3.992	251
[illegible]	71.	[illegible]	[illegible]	[illegible]	4.194	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
21508.48	71.	-59.254	149.092	-0.884	7.487	244
21344.67	71.	-59.582	153.324	-1.187	8.658	243
21180.85	71.	-60.110	157.248	-1.471	9.876	242
21017.03	71.	-60.991	161.264	-1.700	10.944	241
20853.21	71.	-61.550	164.910	-1.885	11.877	240
20689.40	71.	-61.934	167.949	-2.032	12.621	239
20525.58	71.	-62.699	171.062	-2.132	13.172	238
20361.76	71.	-63.439	173.314	-2.238	13.739	237
20197.95	71.	-64.349	175.845	-2.331	14.240	236
20034.13	71.	-65.408	176.592	-2.385	14.508	235
19870.31	71.	-66.130	177.097	-2.415	14.650	234
19706.49	71.	-66.544	177.424	-2.413	14.609	233
19542.68	71.	-66.589	177.105	-2.377	14.422	232
[illegible]	71.	-66.091	175.953	-2.287	13.927	231
[illegible]	71.	[illegible]	[illegible]	[illegible]	[illegible]	230
[illegible]	71.	[illegible]	[illegible]	[illegible]	[illegible]	229

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
18887.41	71.	-62.958	168.886	-1.874	11.848	228
18723.59	71.	-61.840	165.603	-1.724	11.157	227
18559.77	71.	-60.083	162.080	-1.572	10.418	226
18395.96	71.	-59.157	157.960	-1.409	9.717	225
18232.14	71.	-57.720	153.862	-1.267	9.064	224
18068.32	71.	-56.374	149.722	-1.105	8.271	223
17904.51	71.	-55.137	145.749	-0.943	7.371	222
17740.69	71.	-53.867	142.111	-0.801	6.473	221
17576.87	71.	-52.173	138.673	-0.696	5.765	220
17413.05	71.	-50.779	135.168	-0.641	5.267	219
17249.24	71.	-49.049	131.721	-0.646	5.052	218
17085.42	71.	-46.971	128.516	-0.711	5.157	217
16921.60	71.	-44.497	124.819	-0.794	5.357	216
16757.79	71.	-42.259	120.600	-0.895	5.644	215
16593.97	71.	-40.010	116.901	-0.983	6.031	214
16430.15	71.	-37.570	113.238	-1.062	6.379	213

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
16266.33	71.	-35.417	110.050	-1.070	6.686	212
16102.52	71.	-33.698	107.048	-1.077	6.978	211
15938.70	71.	-32.494	104.872	-1.100	7.190	210
15774.88	71.	-31.226	102.643	-1.128	7.267	209
15611.06	71.	-30.208	100.862	-1.182	7.222	208
15447.25	71.	-29.561	99.963	-1.204	6.929	207
15283.43	70.	-29.466	100.444	-1.201	6.410	206
15119.61	70.	-29.662	101.889	-1.109	5.840	205
14955.80	70.	-29.592	103.827	-0.994	5.291	204
14791.98	70.	-29.278	105.843	-0.876	4.765	203
14628.16	70.	-28.595	107.666	-0.749	4.309	202
14464.34	70.	-27.912	109.498	-0.642	3.946	201
14300.53	70.	-27.618	111.674	-0.532	3.699	200
14136.71	70.	-27.102	113.893	-0.448	3.552	199
13972.89	70.	-26.947	115.361	-0.371	3.471	198
13809.[illegible]	70.	-26.85[illegible]	[illegible]	-0.301	3.476	197

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

- -

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

- -

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
13645.26	70.	-26.693	117.243	-0.256	3.389	196
13481.44	70.	-26.735	116.716	-0.235	3.398	195
13317.62	70.	-27.121	115.093	-0.203	3.343	194
13153.81	70.	-26.714	113.326	-0.159	3.274	193
12989.99	70.	-26.372	111.970	-0.114	3.264	192
12826.17	71.	-25.981	109.667	-0.082	3.289	191
12662.36	71.	-25.410	108.563	-0.050	3.277	190
12498.54	71.	-24.910	106.914	-0.045	3.259	189
12334.72	71.	-25.686	104.647	-0.049	3.230	188
12170.90	71.	-29.179	101.616	-0.065	3.233	187
12007.09	71.	-31.626	99.310	-0.078	3.062	186
11843.27	71.	-32.786	97.329	-0.078	2.925	185
11679.45	71.	-34.258	94.958	[illegible]	[illegible]	184
11515.63	71.	-35.605	92.058	-0.116	2.769	183
11351.82	71.	[illegible]	90.564	[illegible]	[illegible]	[illegible]
[illegible]	71.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
11024.18	71.	-40.197	86.633	-0.351	2.916	180
10860.37	71.	-42.112	85.624	-0.447	3.105	179
10696.55	69.	-41.578	80.536	-0.364	3.197	178
10532.73	69.	-42.812	78.593	-0.374	3.281	177
10368.92	69.	-43.503	76.372	-0.411	3.356	176
10205.10	69.	-45.076	75.543	-0.488	3.337	175
10041.28	69.	-46.589	74.794	-0.569	3.229	174
9877.46	69.	-47.965	74.688	-0.664	3.219	173
9713.65	69.	-48.466	75.379	-0.729	3.198	172
9549.83	69.	-49.602	76.399	-0.765	3.220	171
9386.01	69.	-50.714	76.806	-0.812	3.317	170
9222.19	69.	-51.119	77.422	-0.811	3.365	169
9058.38	69.	-52.288	77.705	-0.758	3.358	168
8894.56	69.	-53.777	77.652	-0.733	3.432	167
8730.74	69.	-54.625	77.762	[illegible]	[illegible]	166
[illegible]	69.	[illegible]	77.119	[illegible]	[illegible]	[illegible]

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
8403.11	69.	-56.186	76.580	-0.856	3.859	164
8239.29	69.	-57.475	76.733	-0.897	3.880	163
8075.47	69.	-58.654	77.319	-0.990	4.044	162
7911.66	69.	-59.073	77.152	-1.050	4.154	161
7747.84	69.	-59.385	76.257	-1.063	4.209	160
7584.02	69.	-60.052	75.598	-1.055	4.249	159
7420.21	69.	-60.674	74.189	-0.947	4.028	158
7256.39	69.	-61.533	72.788	-0.845	3.768	157
7092.57	69.	-63.404	72.182	-0.773	3.487	156
6928.75	69.	-64.077	71.966	-0.736	3.341	155
6764.94	69.	-63.925	70.447	-0.681	3.241	154
6601.12	69.	-62.687	69.460	-0.621	3.179	153
64[illegible].30	69.	-60.189	68.481	-0.580	3.219	152
6273.45	69.	-56.235	67.466	-0.532	3.260	151
6109.67	68.	-50.597	66.664	-0.481	3.208	150
[illegible]	68.	-45.539	65.474	-0.353	3.111	149

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DU2:CFC3FA.CSL
DECISION HEIGHT 200 FT
STANDARD STATISTICS SUMMARY

LONGITUDINAL BINS FOR FINAL APPROACH SEGMENT

AZIMUTH TOTAL SYSTEM ERROR (FT)

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

FEET FROM THETA	POINTS	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS	BIN #
[illegible]	68.	-40.534	64.857	-0.235	3.046	148
[illegible]	68.	-35.424	65.958	-0.091	2.974	147
[illegible]	68.	-30.755	67.754	0.047	3.033	146
[illegible]	68.	-26.133	70.597	0.215	3.479	145
[illegible]	68.	-22.307	73.169	0.317	3.680	144
[illegible]	68.	-18.020	74.183	0.374	3.755	143
[illegible]	[illegible]	[illegible]	73.702	0.419	3.881	142
[illegible]	[illegible]	[illegible]	73.393	0.422	3.832	141
[illegible]	[illegible]	[illegible]	74.092	0.360	3.608	140
[illegible]	[illegible]	[illegible]	[illegible]	0.302	3.522	139
[illegible]	[illegible]	[illegible]	[illegible]	0.178	3.358	138
[illegible]	[illegible]	[illegible]	[illegible]	0.020	3.284	137

APPENDIX F

MINIMA ANALYSIS PRINTOUTS

C-172 3 DEGREE MLS APPROACH
COMPOSITE DATA FILE DLO:CFC3MA.CSM

MINIMA ANALYSIS STATISTICS

DECISION HEIGHT 200 FT

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

THERE WERE 27. RUNS THAT REACHED DECISION HEIGHT

ALONG TRACK AT DECISION HEIGHT (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
27.	3319.68	1267.09	-2.05	5.72

CROSS TRACK AT DECISION HEIGHT (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
27.	-0.40	63.77	-0.18	3.55

ALONG TRACK AT LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
49.	3404.08	856.36	-0.60	3.87

CROSS TRACK AT LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
49.	-5.84	79.51	0.52	[illegible]

LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
49.	193.69	[illegible]	[illegible]	[illegible]

[illegible]

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C-172 4 DEGREE MLS APPROACH
COMPOSITE DATA FILE DLO:CFC4MA.CSM

MINIMA ANALYSIS STATISTICS

DECISION HEIGHT 200 FT

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

THERE WERE 30. RUNS THAT REACHED DECISION HEIGHT

ALONG TRACK AT DECISION HEIGHT (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
30.	2822.03	588.14	-3.79	19.07

CROSS TRACK AT DECISION HEIGHT (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
30.	-2.21	75.82	-1.95	8.11

ALONG TRACK AT LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
51.	2391.21	715.48	-1.12	4.00

CROSS TRACK AT LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
51.	-10.92	91.50	-0.92	5.32

LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
51.	194.30	36.38	[illegible]	[illegible]

HEIGHT [illegible] (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

C-172 5 DEGREE MLS APPROACH
COMPOSITE DATA FILE DLO:CFC5MA.CSM

MINIMA ANALYSIS STATISTICS

DECISION HEIGHT 200 FT

- -

DATA COLLECTED AND PROCESSED AT:
THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

- -

THERE WERE 37. RUNS THAT REACHED DECISION HEIGHT

ALONG TRACK AT DECISION HEIGHT (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
37.	2264.39	217.89	-0.95	4.05

CROSS TRACK AT DECISION HEIGHT (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
37.	8.98	71.72	-0.03	2.45

ALONG TRACK AT LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
51.	1720.42	618.56	-2.22	12.64

CROSS TRACK AT LOWEST ALTITUDE (FT)

POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
51.	-12.67	59.29	-0.49	2.70

LOWEST ALTITUDE (FT)

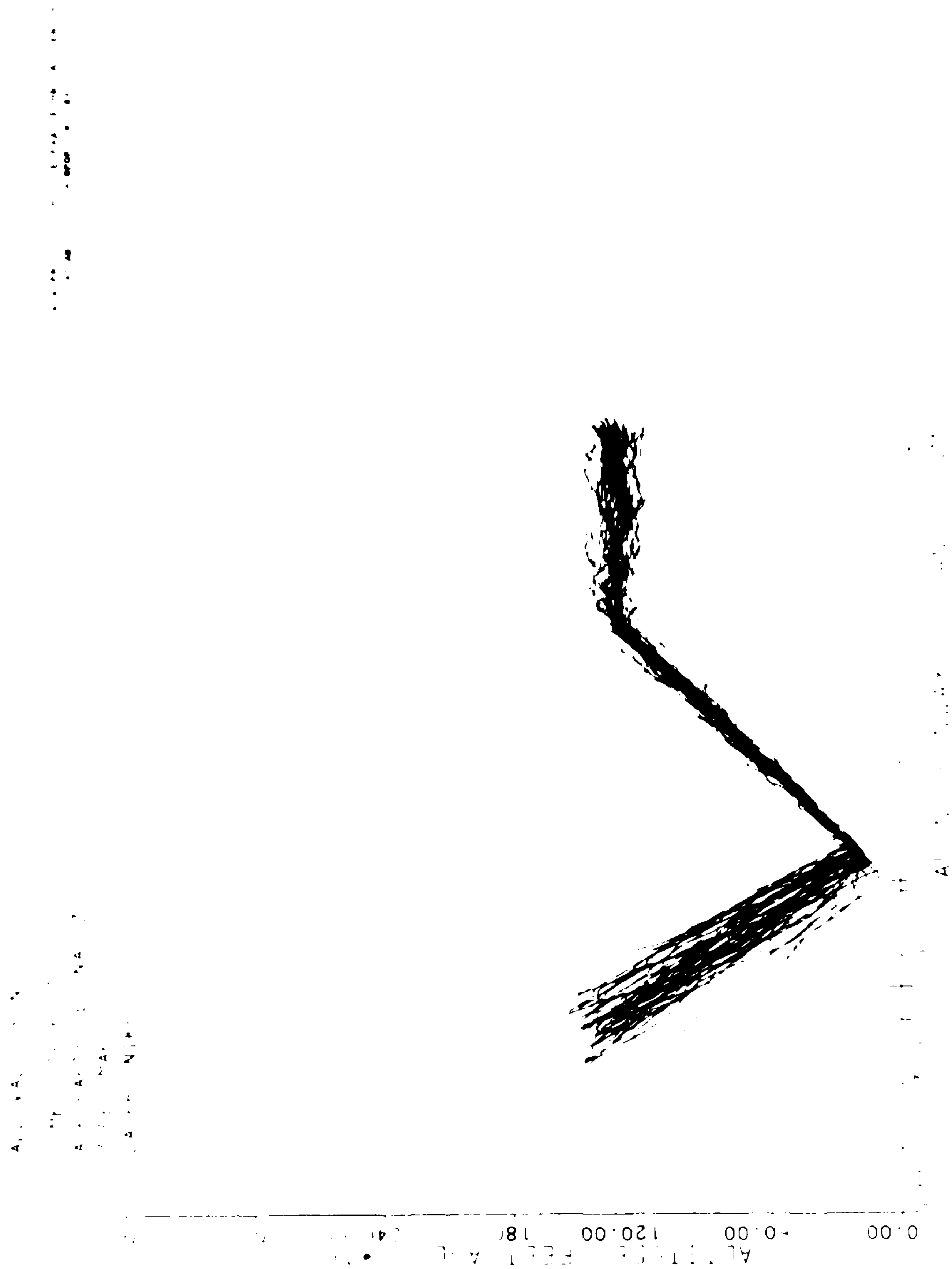
POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
[illegible]1.	177.[illegible]	[illegible]	[illegible].18	1.[illegible]

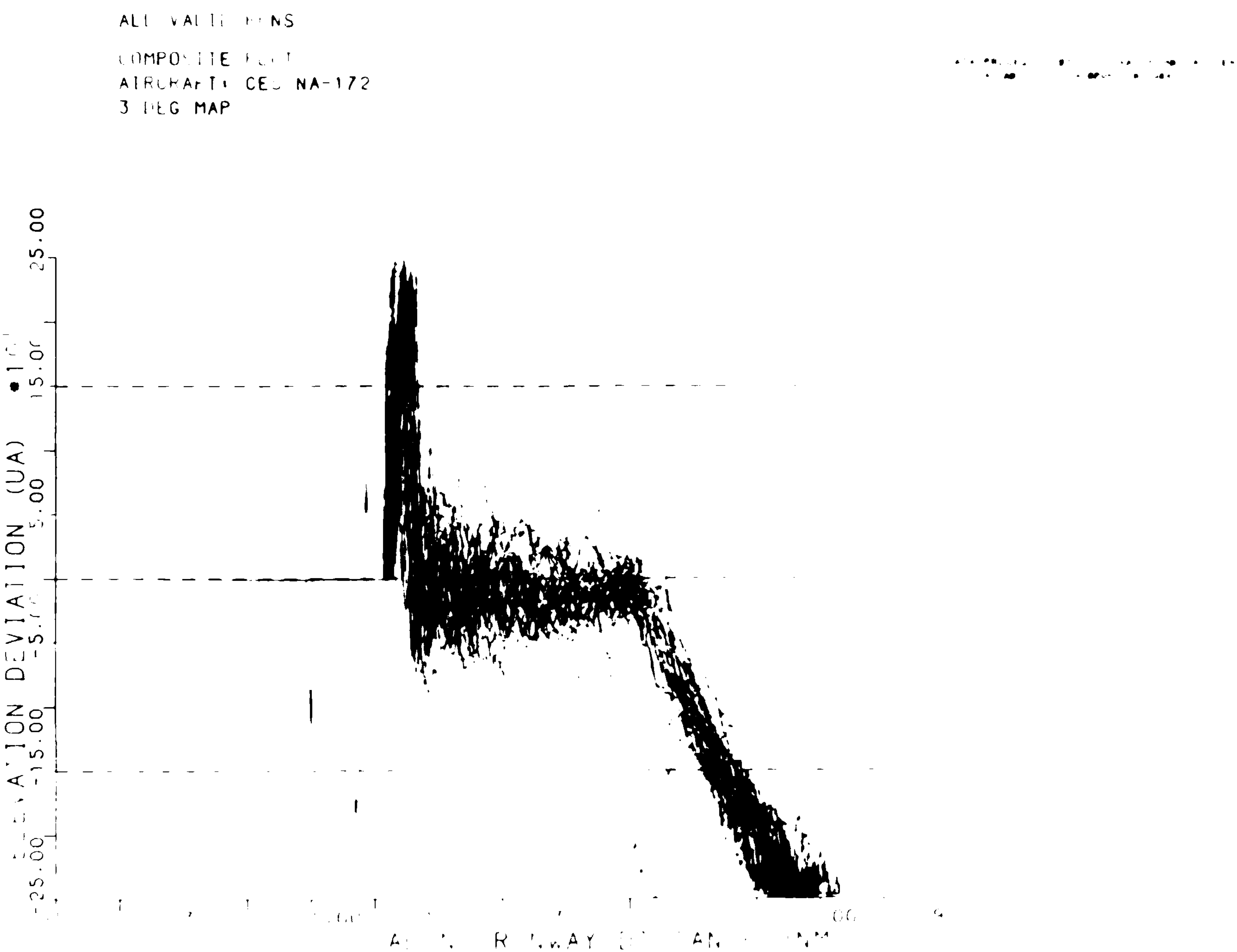
HEIGHT [illegible] (FT)

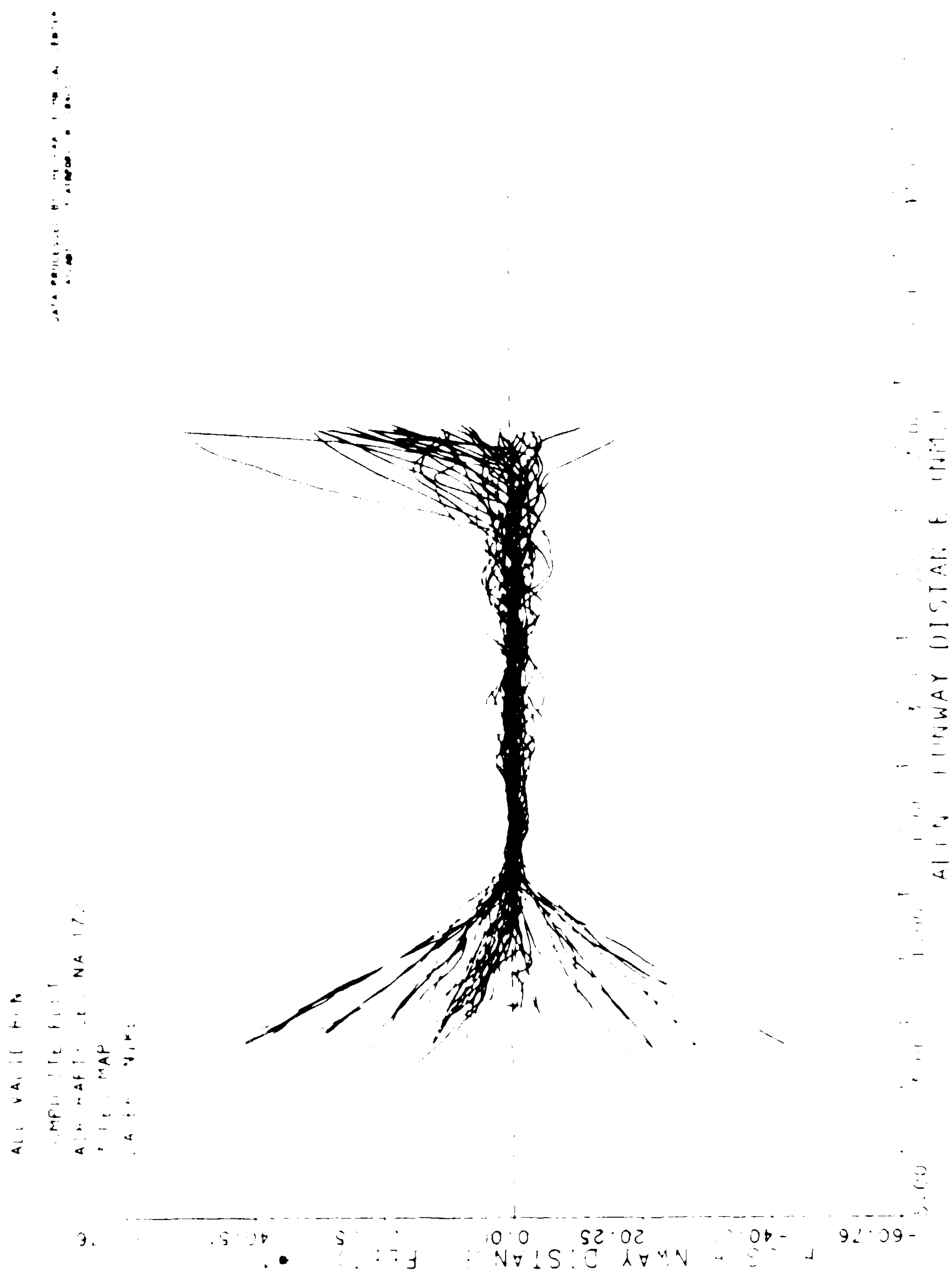
POINTS	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
[illegible]	[illegible].64	[illegible]6	[illegible]	[illegible]

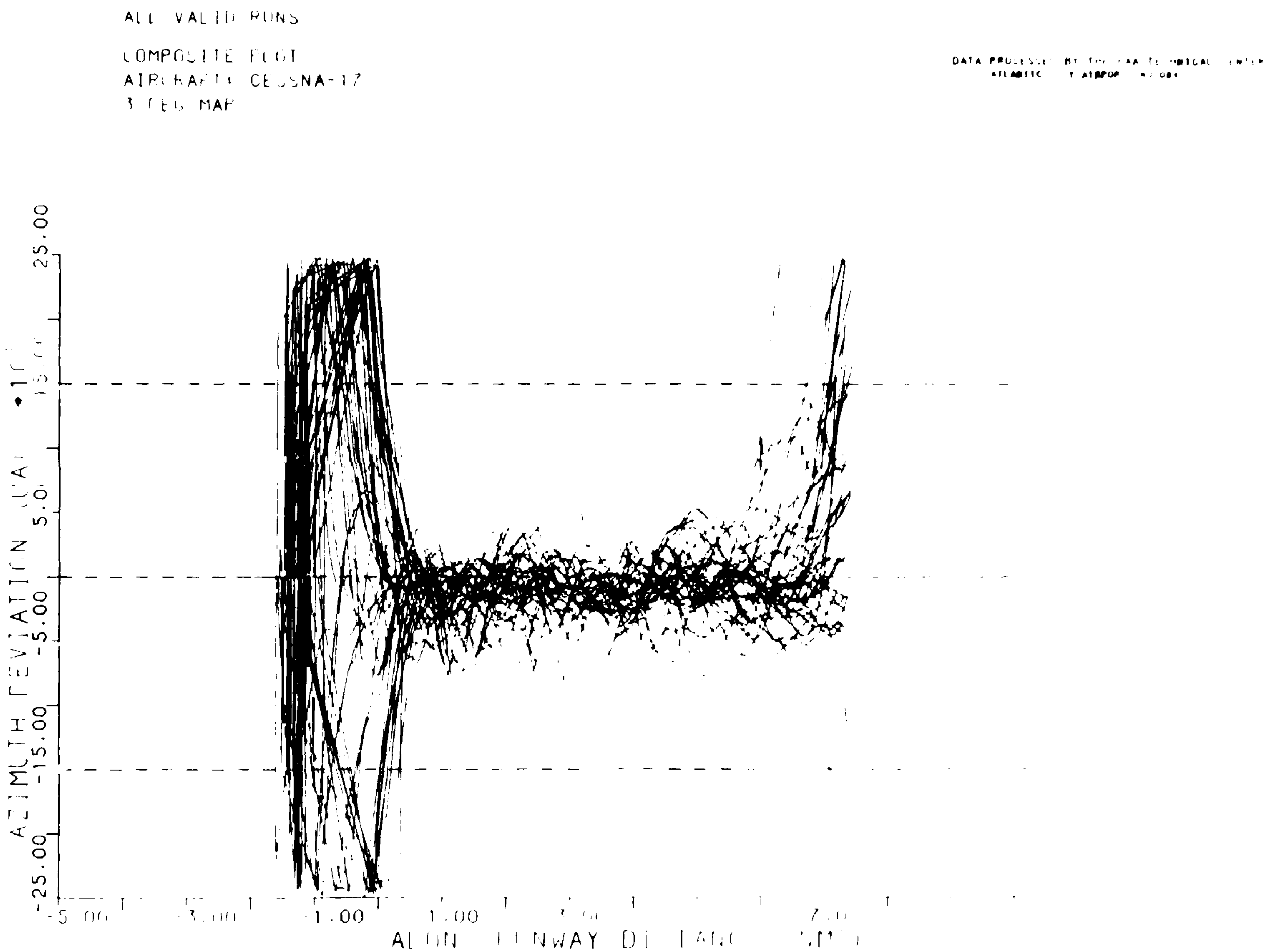
APPENDIX G

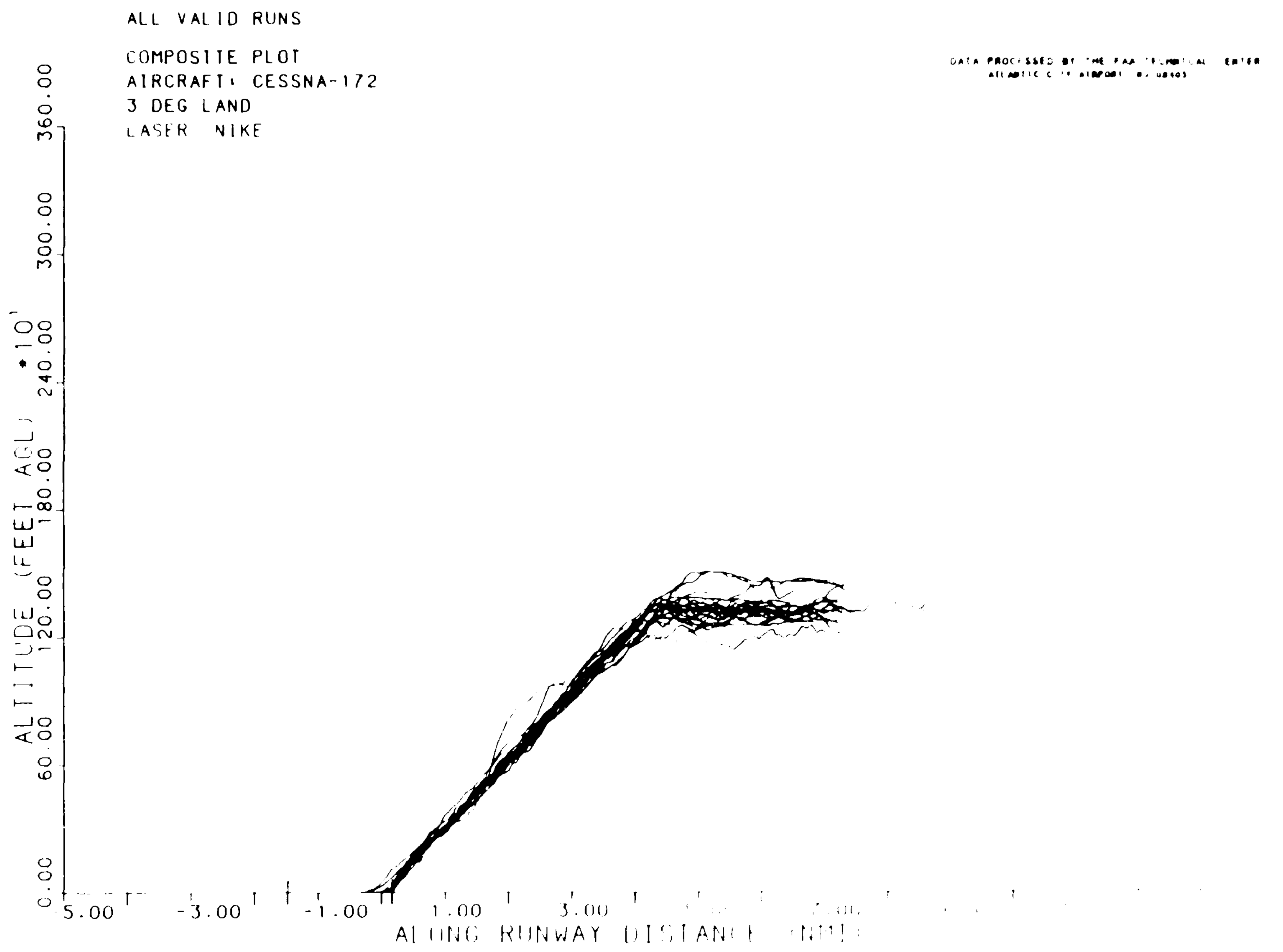
COMPOSITE PLOTS




3 DEG MAP
NA-172
DEVIATION (UA)
25.00
15.00
5.00
-15.00
-25.00

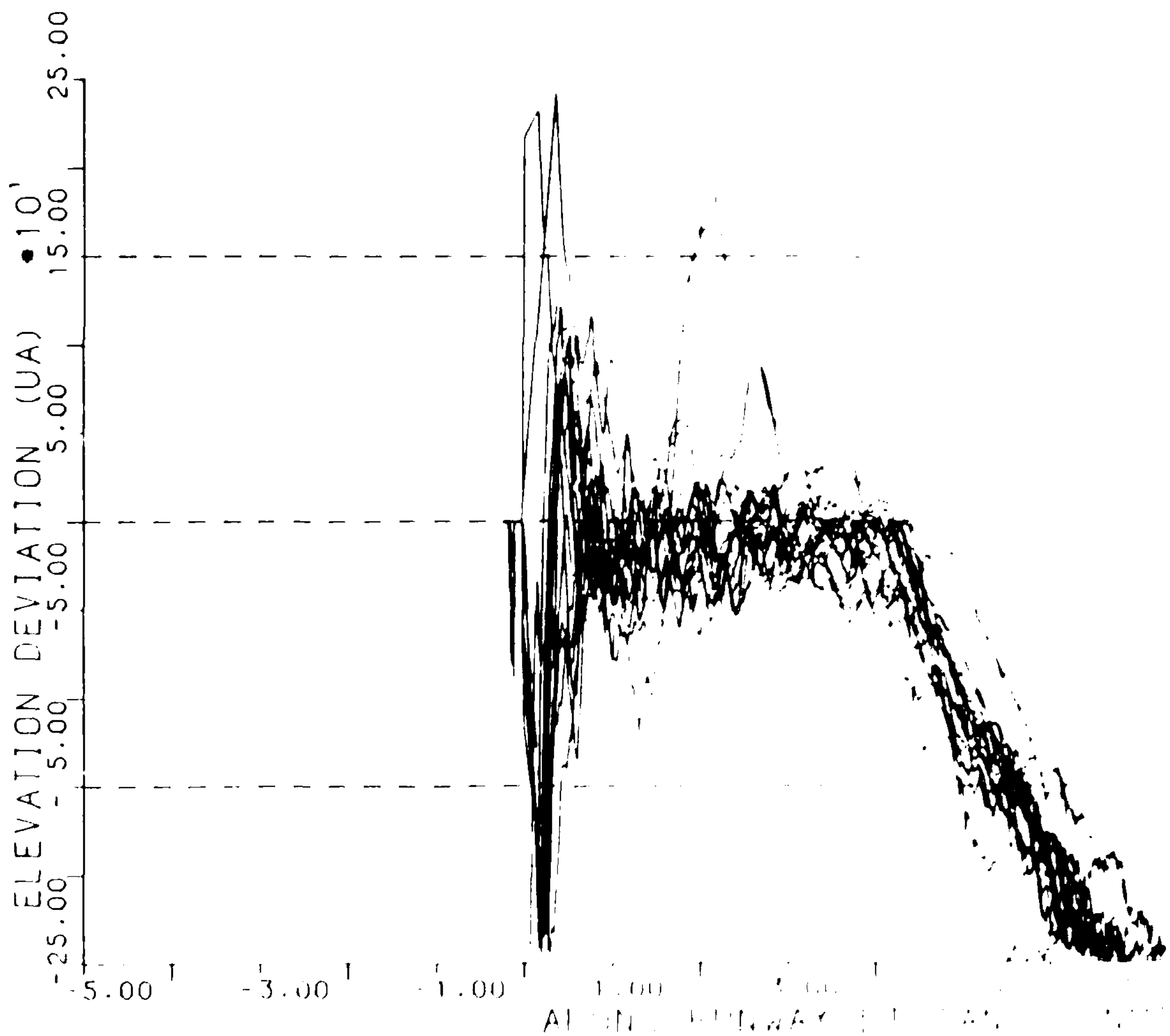

0.0
20.25
-60.76

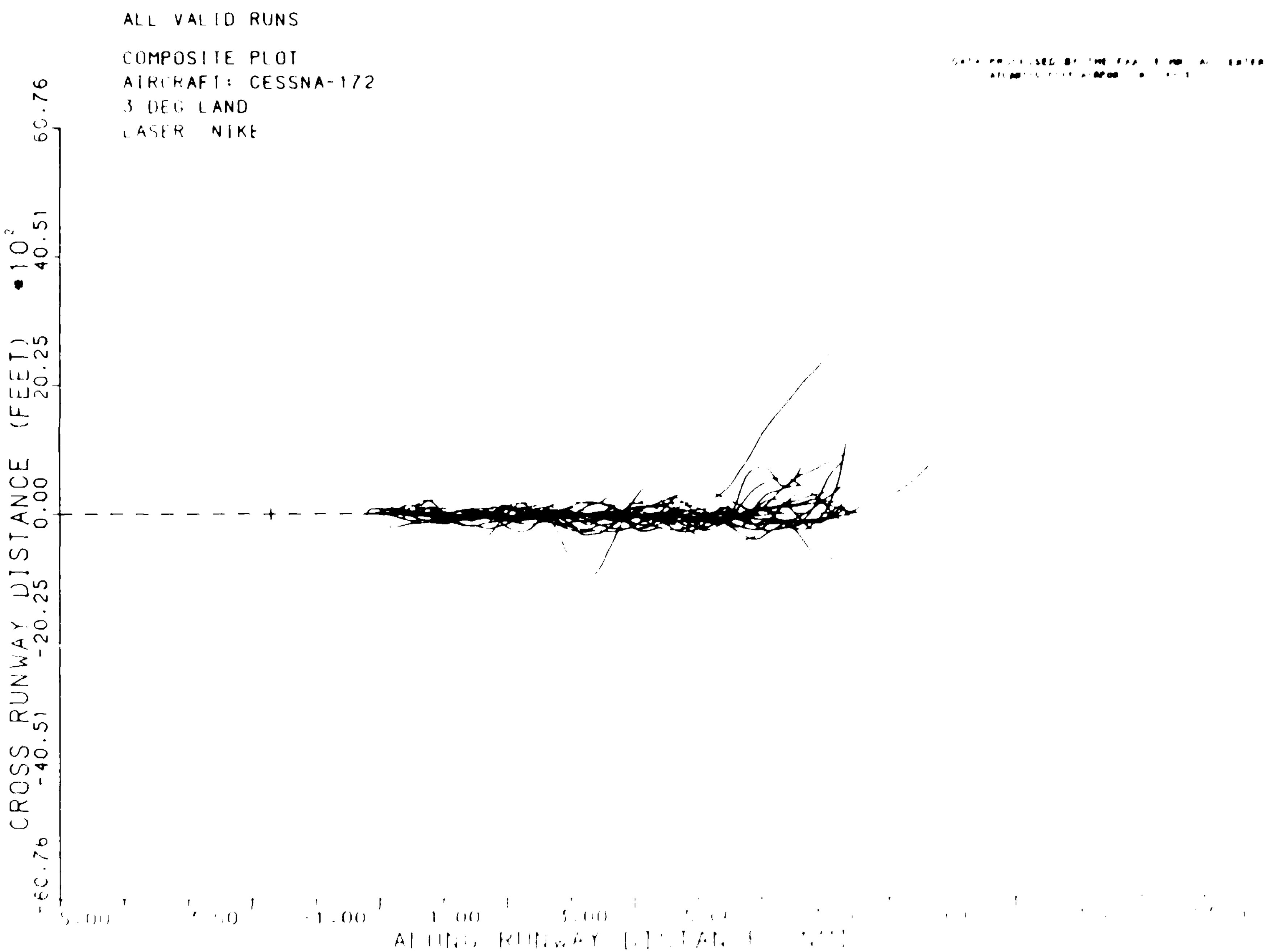

ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-17
3 DEG MAP
DATA PROCESSED BY THE FAA TECHNICAL CENTER
25.00
5.0
-5.00
-15.00
-25.00
-5.00
-3.00
-1.00
1.00
7.0


ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
3 DEG LAND
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT
ALTITUDE (FEET AGL) *10¹
0.00
60.00
120.00
180.00
240.00
300.00
360.00
-5.00
-3.00
-1.00
1.00
3.00
ALONG RUNWAY DISTANCE (NM)

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
3 DEG LAND

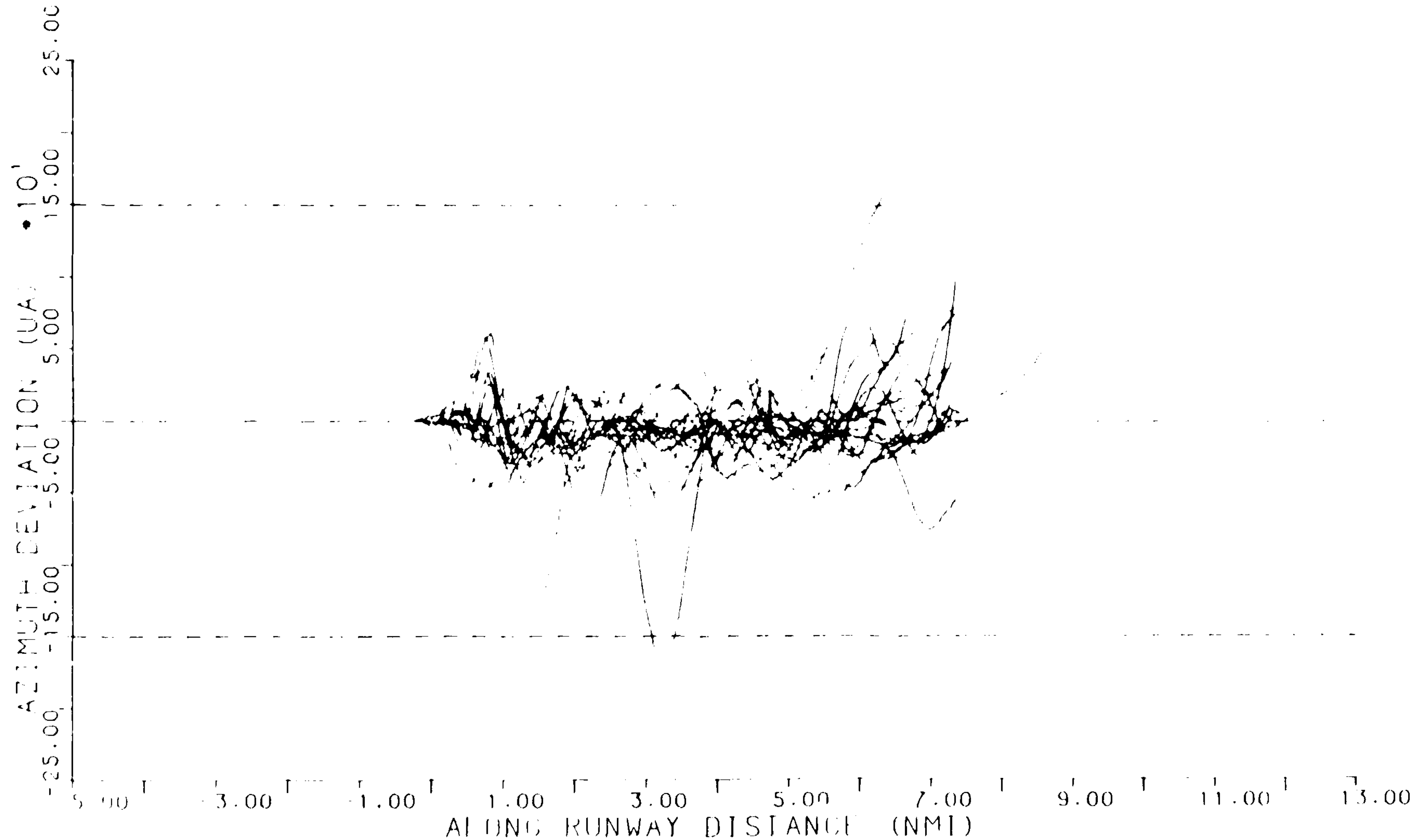



ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
3 DEG LAND
LASER NIKE
CROSS RUNWAY DISTANCE (FEET) *10²
60.76
40.51
20.25
0.00
-20.25
-40.51
-60.76
-1.00
1.00
3.00
ALONG RUNWAY DISTANCE

ALL VALID RUNS

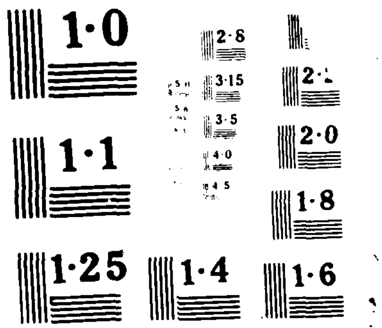
COMPOSITE PLOT
AIRCRAFT: CESSNA 172
3 DEG LAND

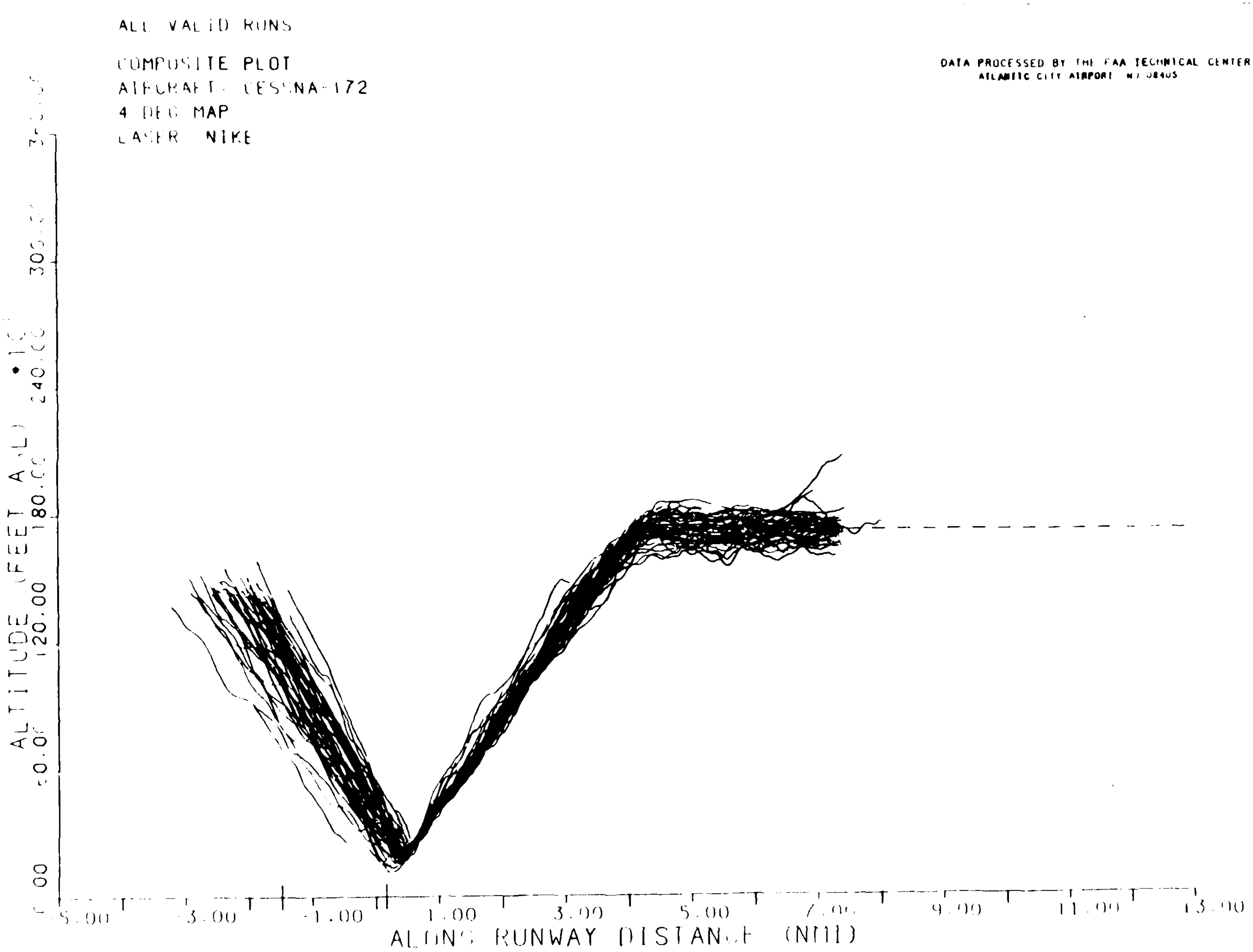
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, N.J. 08405



AD-A191 241 CESSNA 172 MLS (MICROWAVE LANDING SYSTEM) TERMINAL INSTRUMENT PROCEDURES (..(U) FEDERAL AVIATION ADMINISTRATION WASHINGTON DC E J PUGACZ OCT 87 2/3

UNCLASSIFIED DOT/FAA/CT-TN87/36 F/G 17/7.3 NL

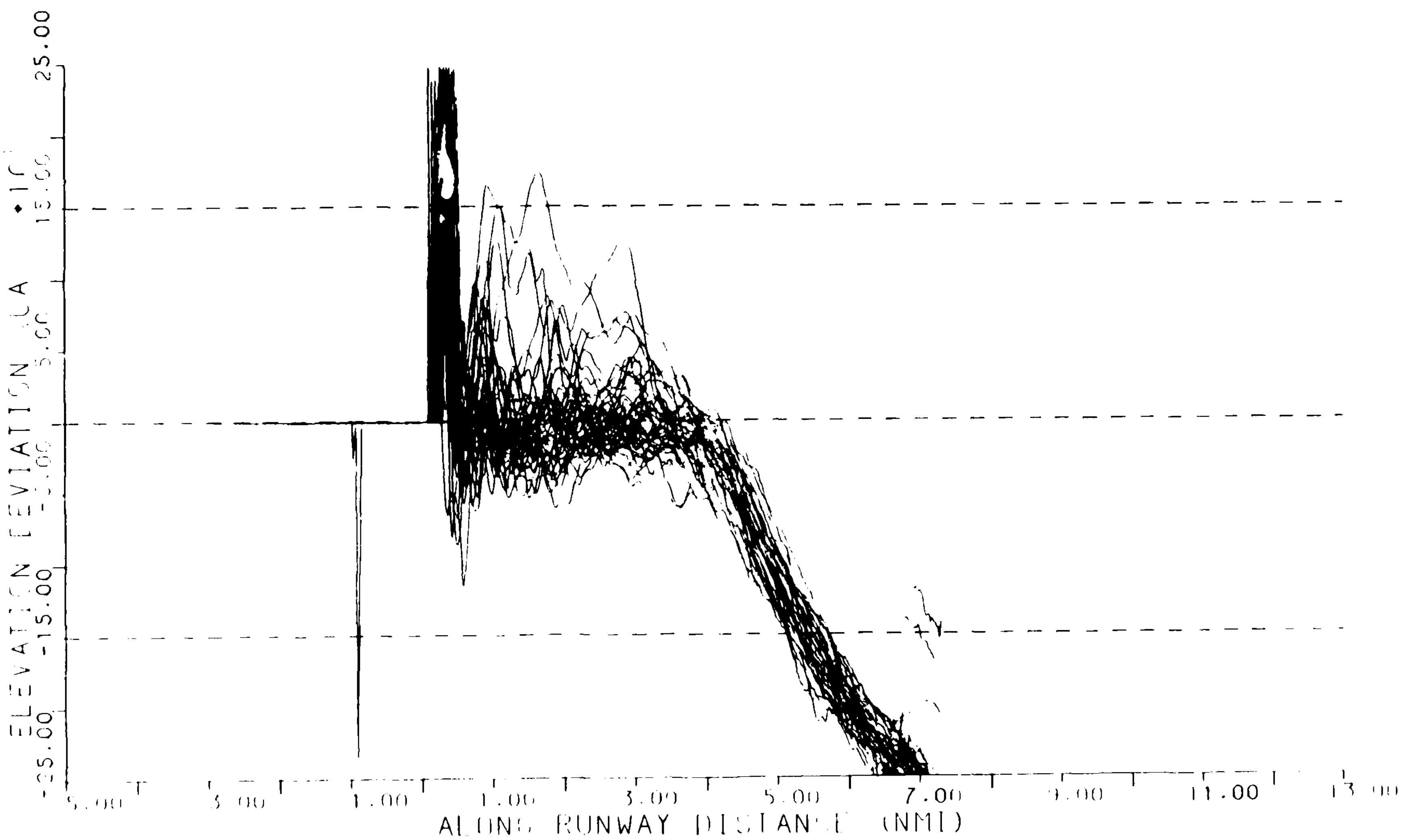

1·0
2·8
3·15
2·2
3·5
2·0
1·1
4·0
4·5
1·8
1·25
1·4
1·6

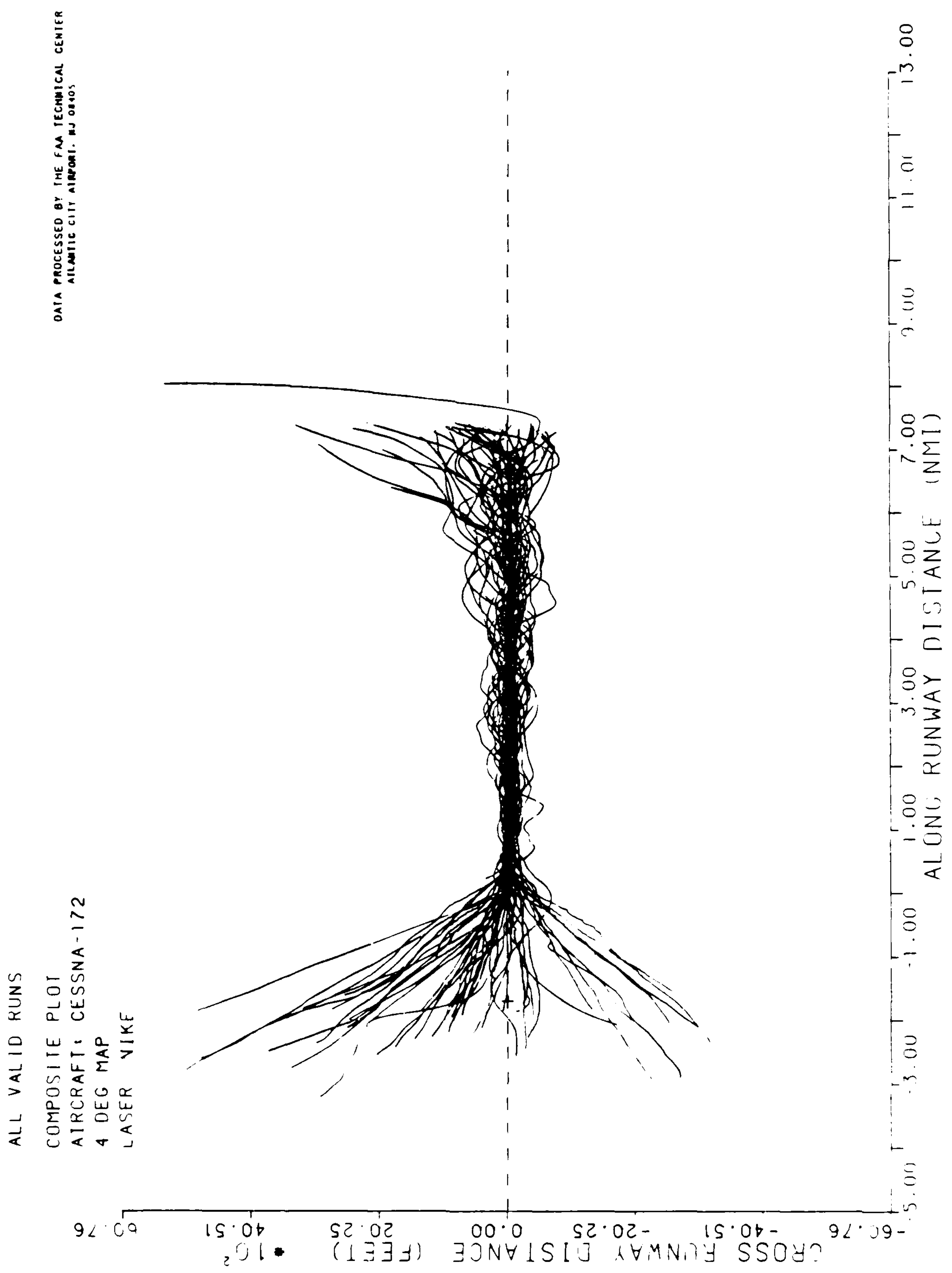

ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT- CESSNA-172
4 DEG MAP
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
ALTITUDE (FEET AGL) *10
ALONG RUNWAY DISTANCE (NMI)
-5.00
-3.00
-1.00
1.00
3.00
5.00
9.00
11.00
13.00
60.00
120.00
180.00
240.00
300.00

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
4 DEG MAP

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

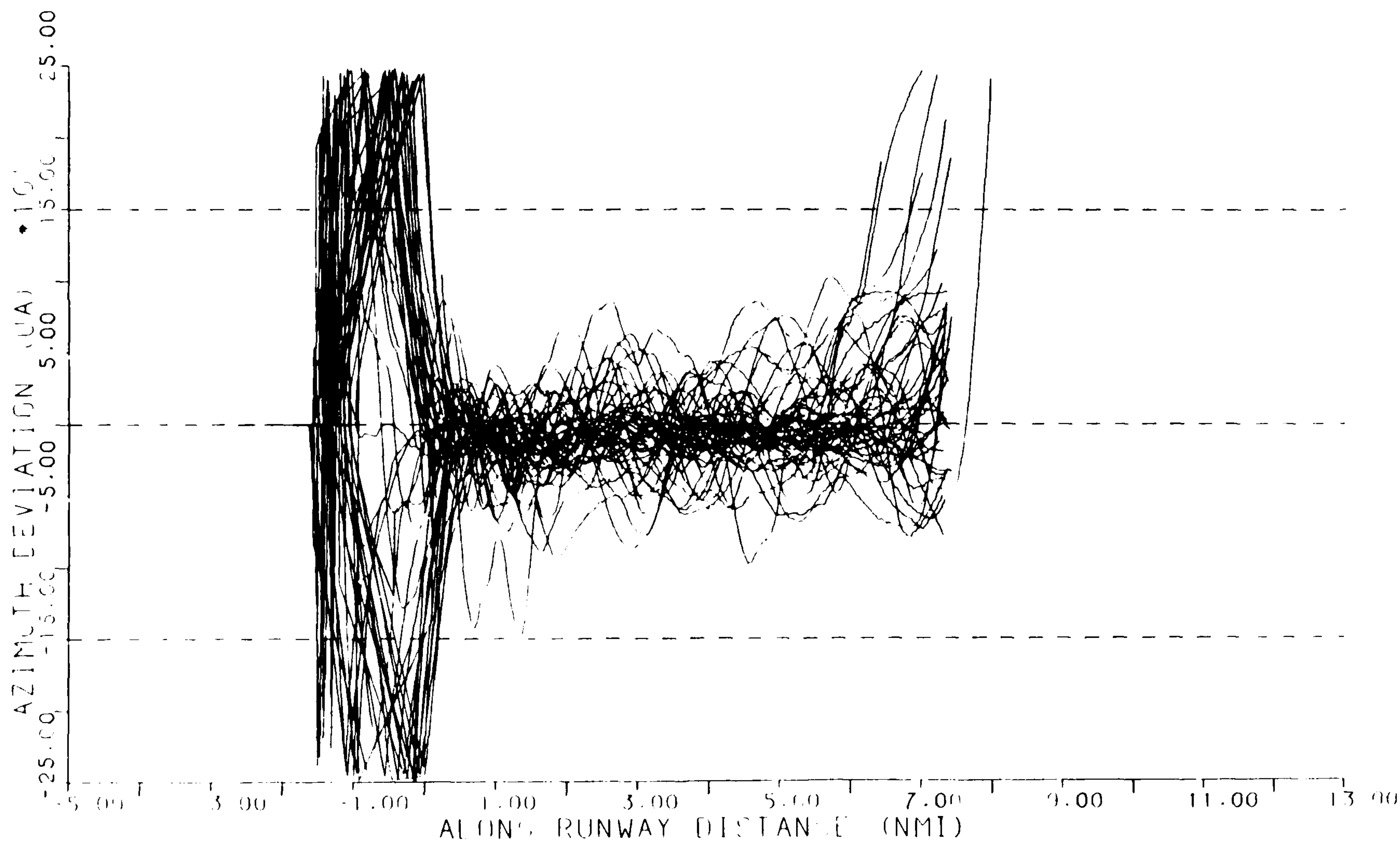


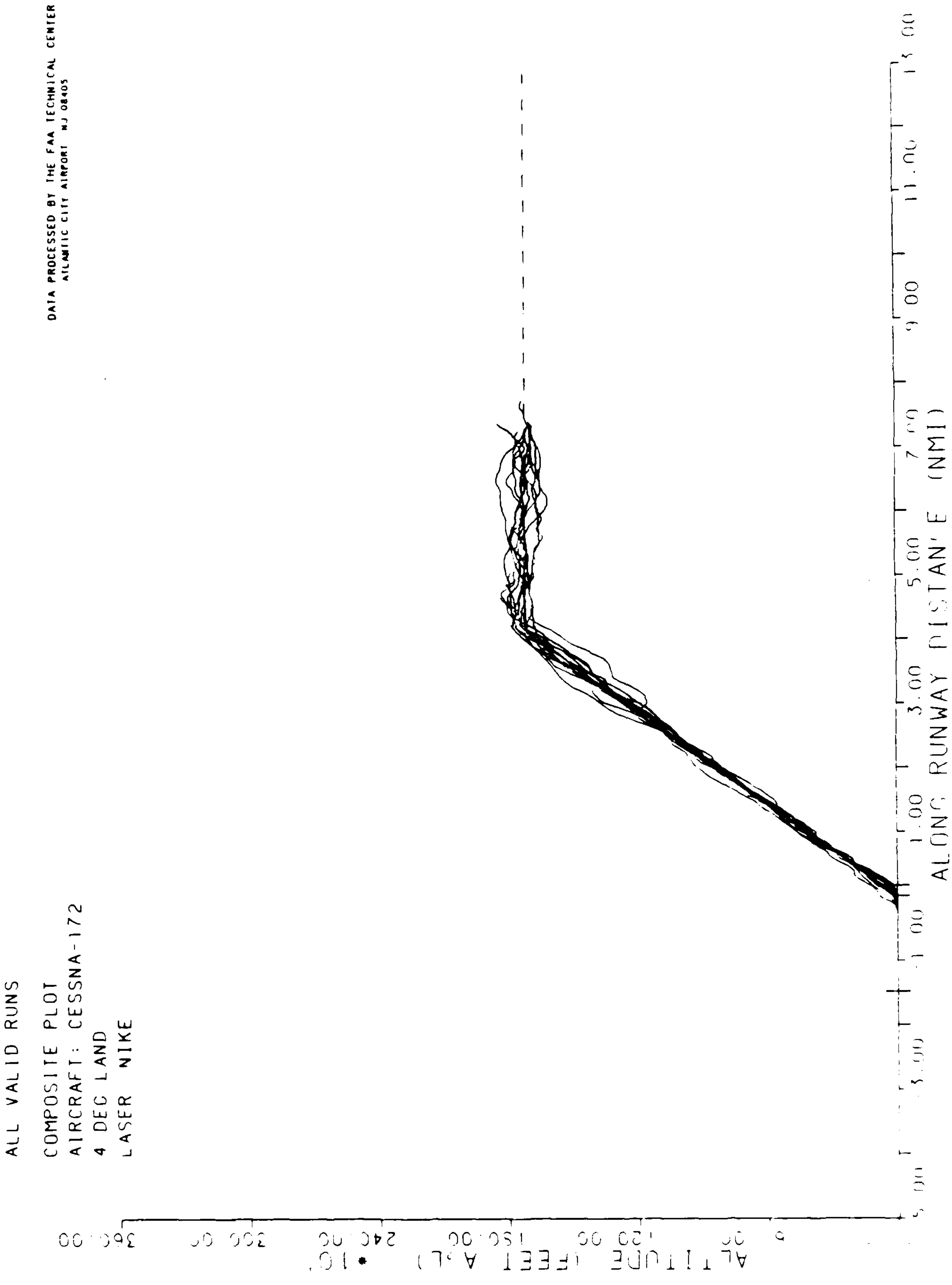

ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
4 DEG MAP
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405
-5.00
-3.00
-1.00
1.00
3.00
5.00
7.00
9.00
11.00
13.00
ALONG RUNWAY DISTANCE (NMI)
60.76
40.51
20.25
0.00
-20.25
-40.51
-60.76
CROSS RUNWAY DISTANCE (FEET) *10²

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
4 DEG MAP

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405

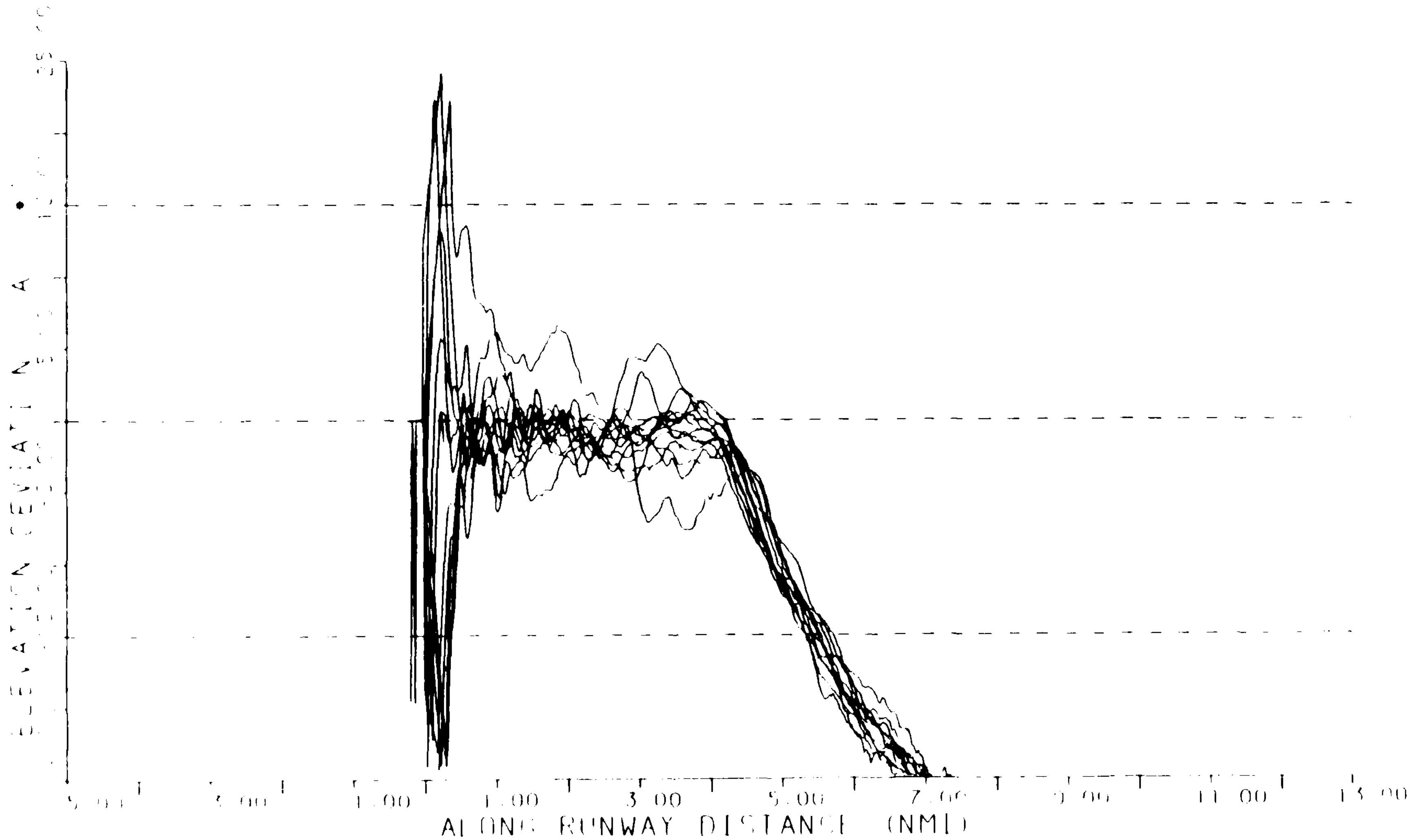


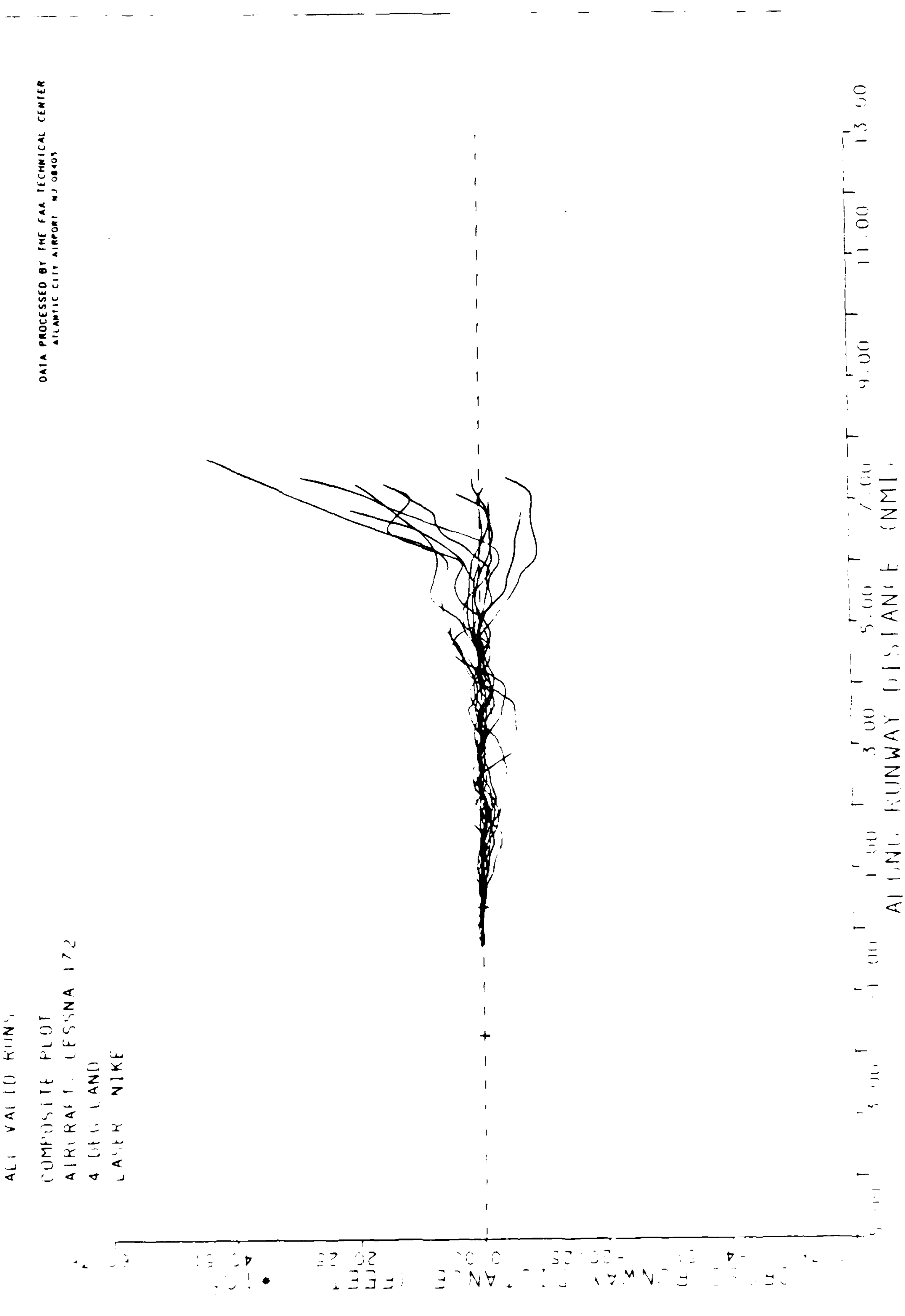

ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
4 DEG LAND
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
ALONG RUNWAY DISTANCE (NMI)
ALTITUDE (FEET A.L) *10'

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
4 DEG LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



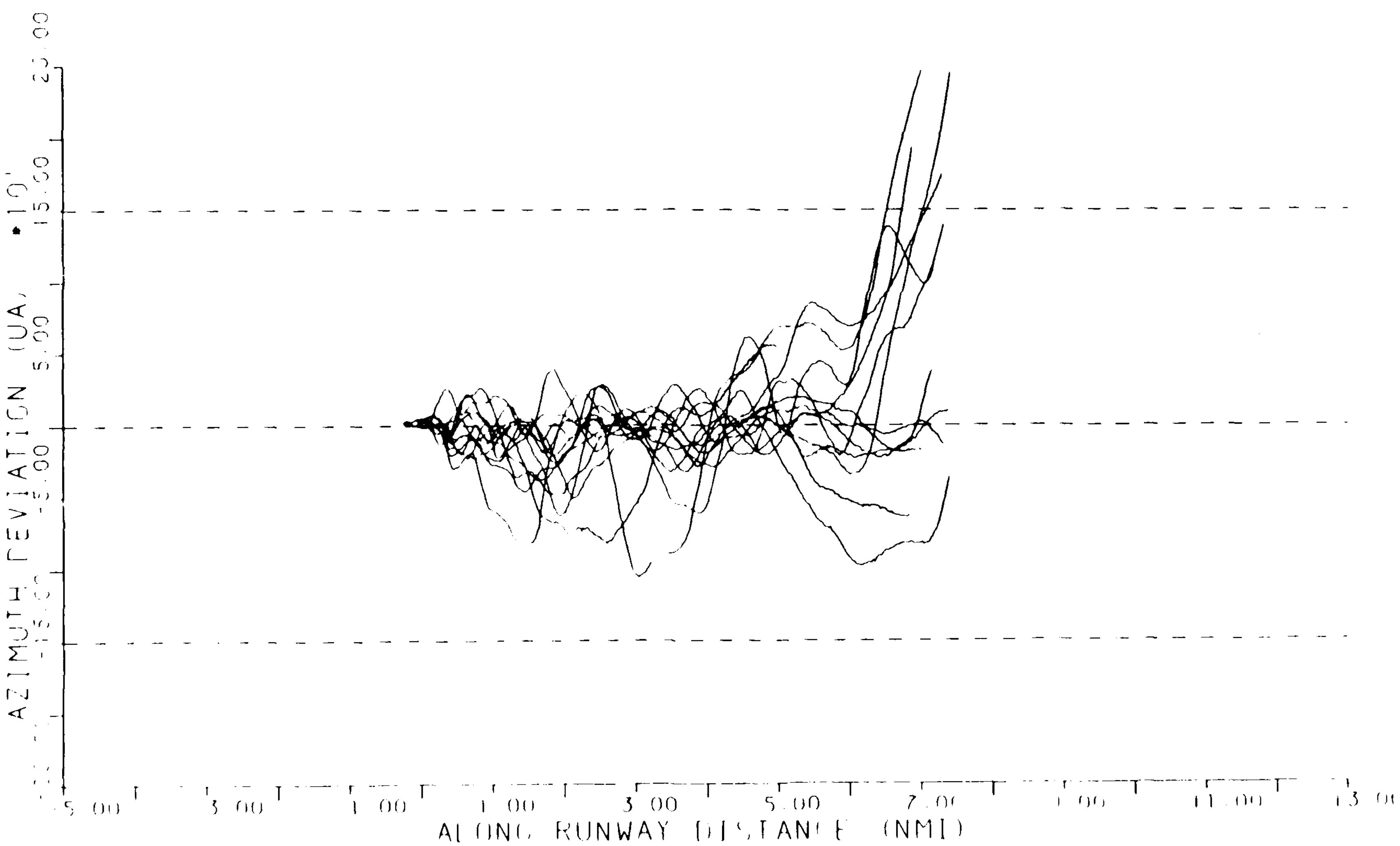


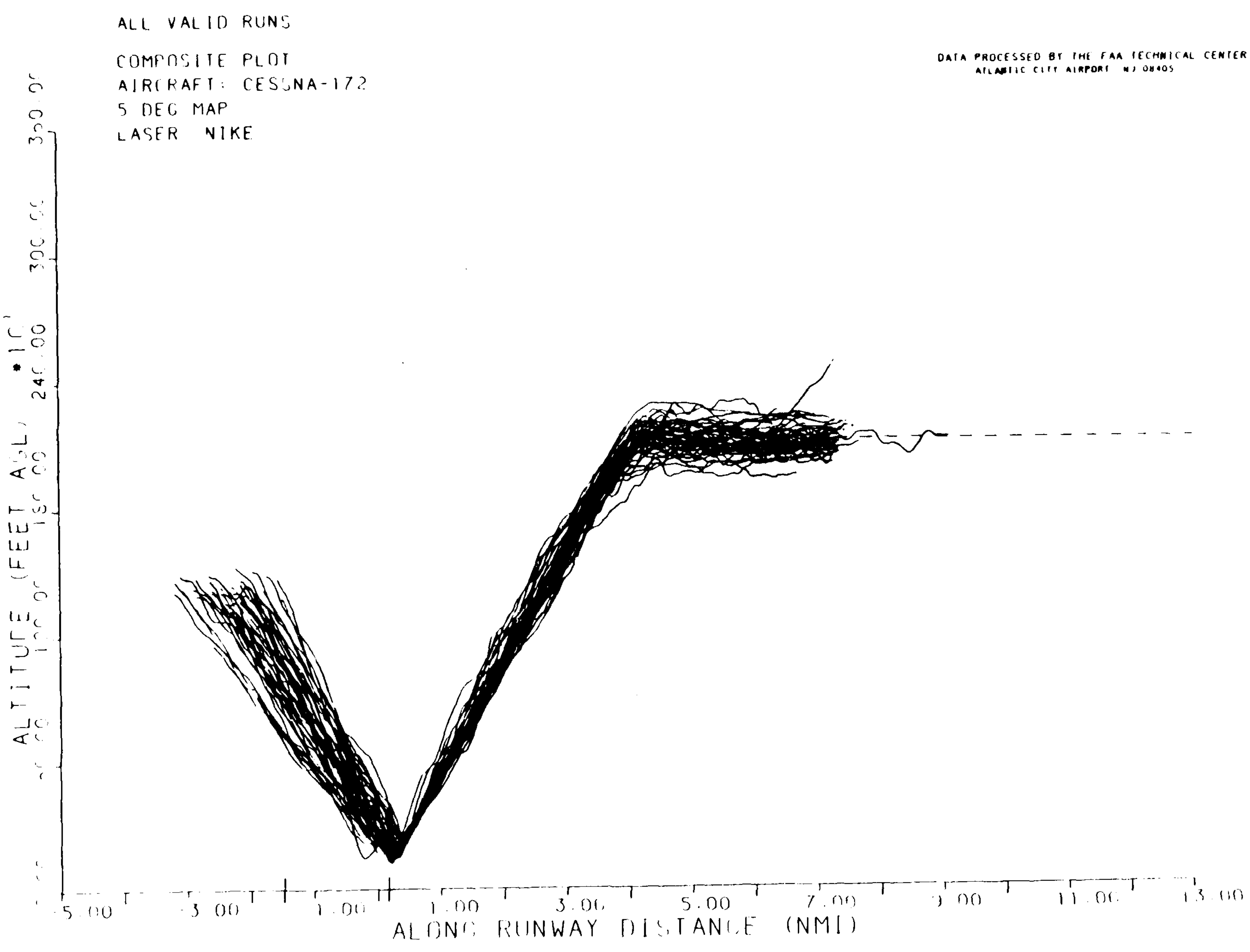
ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA 172
4 DEG LAND
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
ALONG RUNWAY DISTANCE (NMI)
3.00
5.00
9.00
11.00
13.00

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
4 DEG LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405

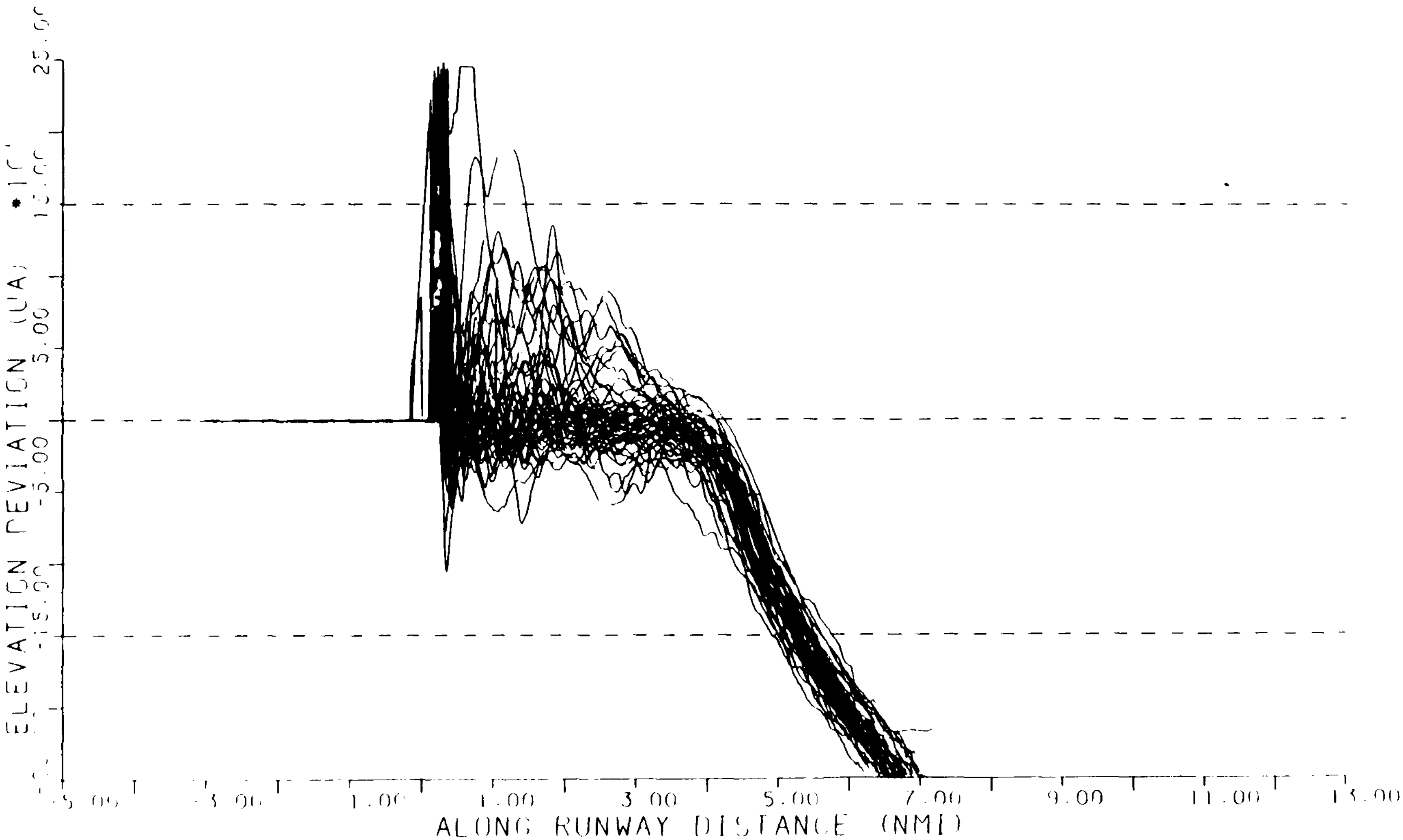


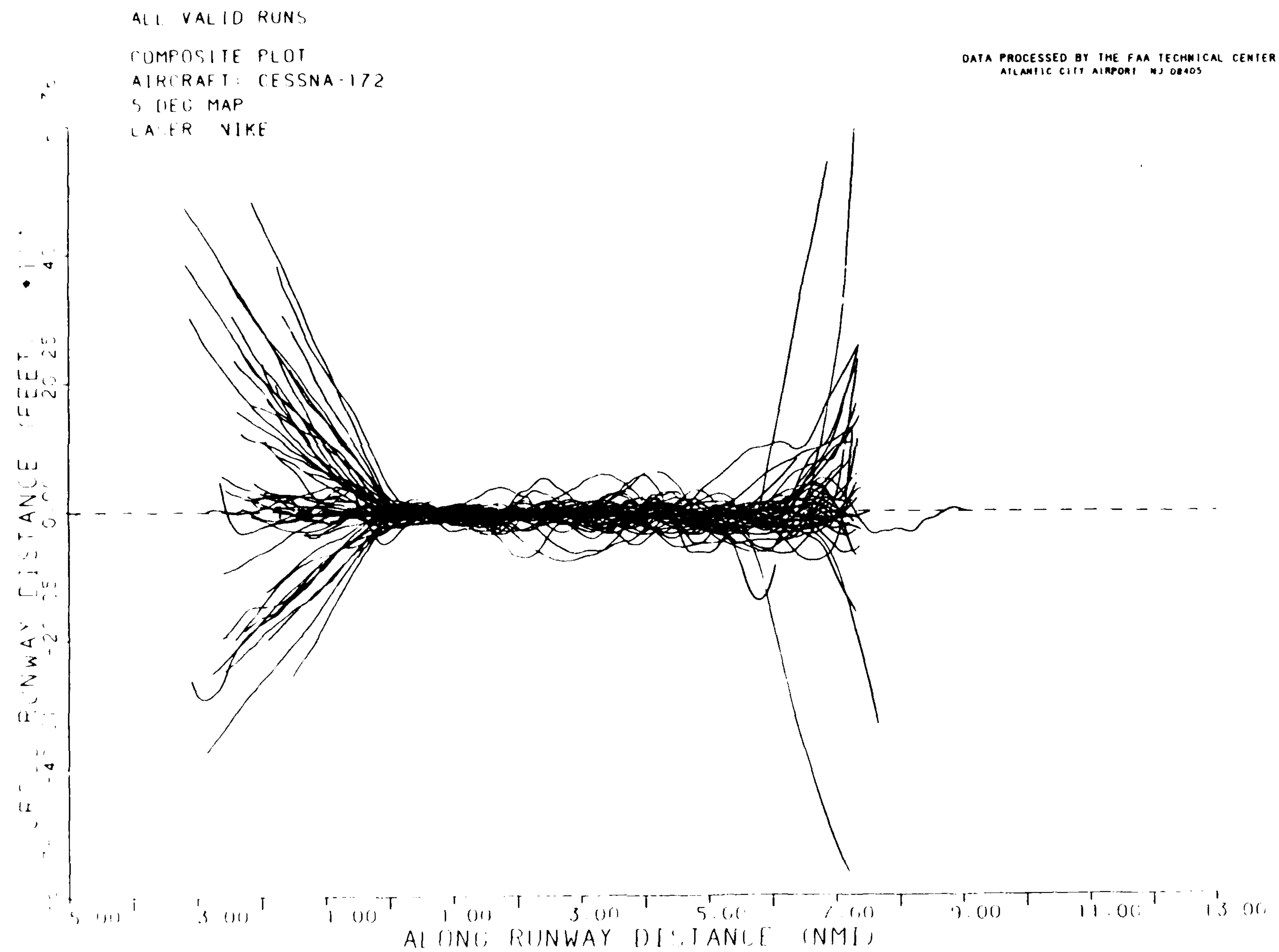

ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG MAP
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
ALTITUDE (FEET ASL) *10
ALONG RUNWAY DISTANCE (NMI)
5.00
3.00
1.00
3.00
5.00
7.00
11.00
13.00
240.00
300.00

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG MAP

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405

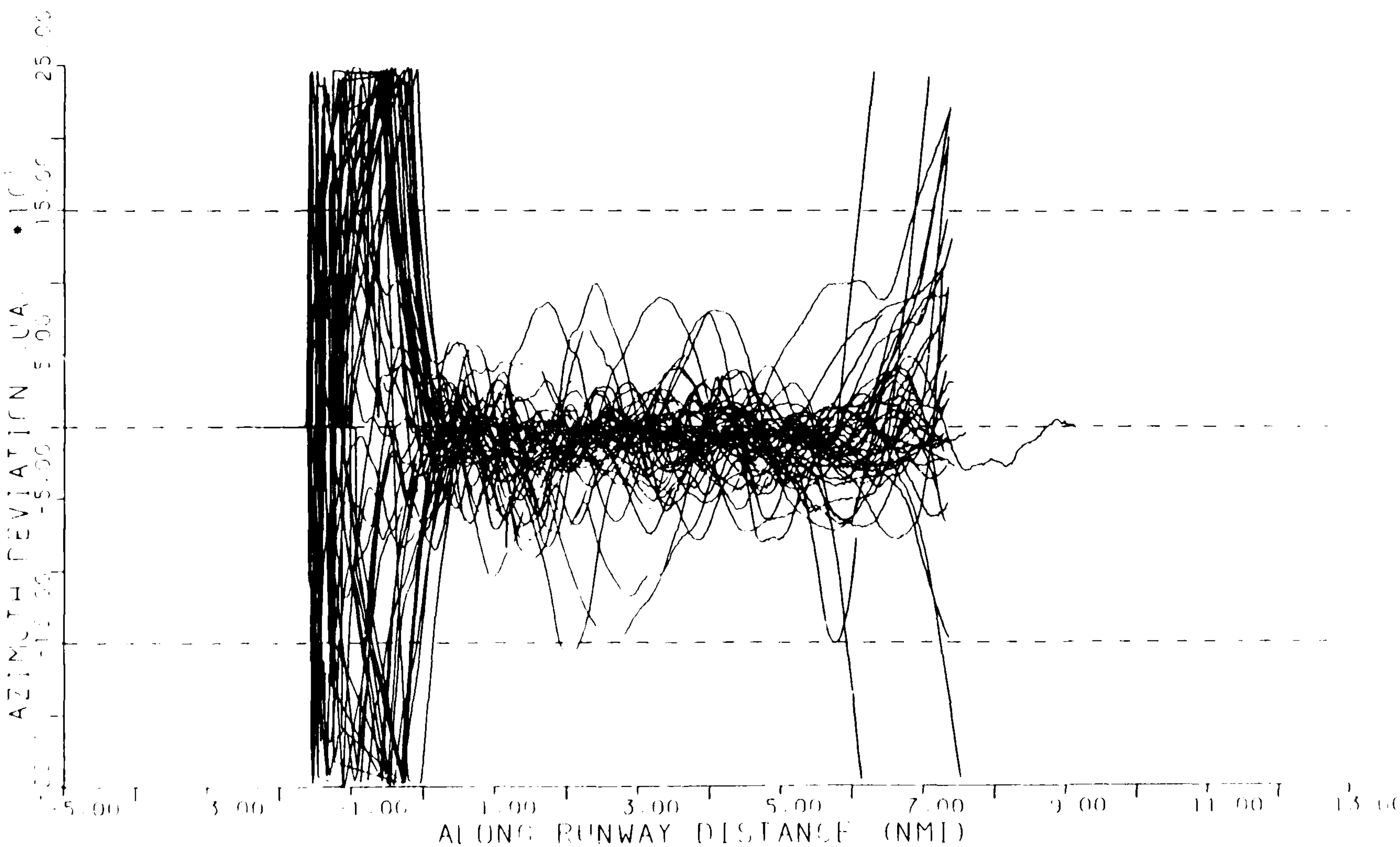


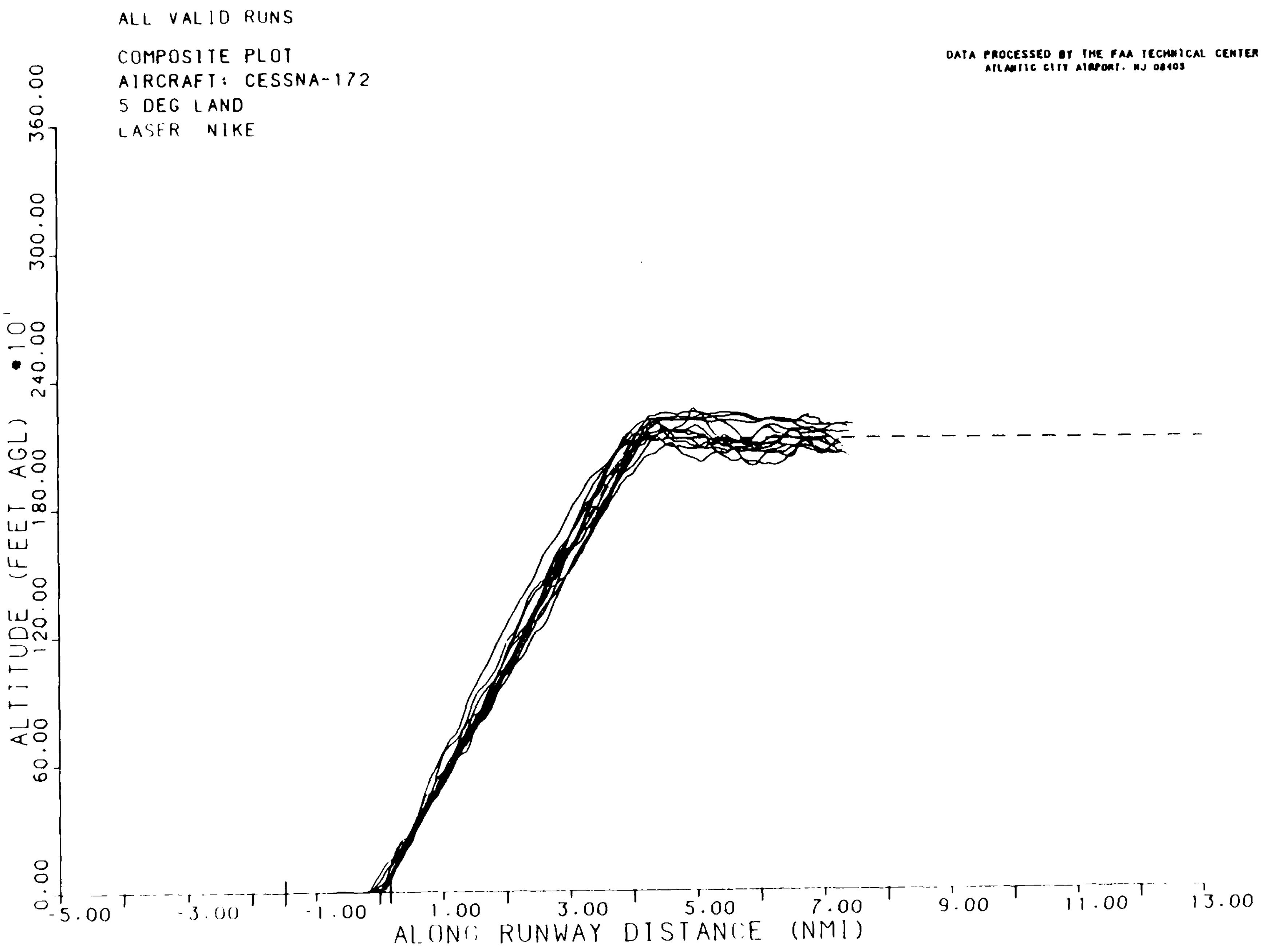

ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG MAP
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
ALONG RUNWAY DISTANCE (NMI)
3.00
1.00
1.00
3.00
5.00
7.00
9.00
11.00
13.00
RUNWAY DISTANCE (FEET
20.25
0.00
-20.25

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG MAP

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405

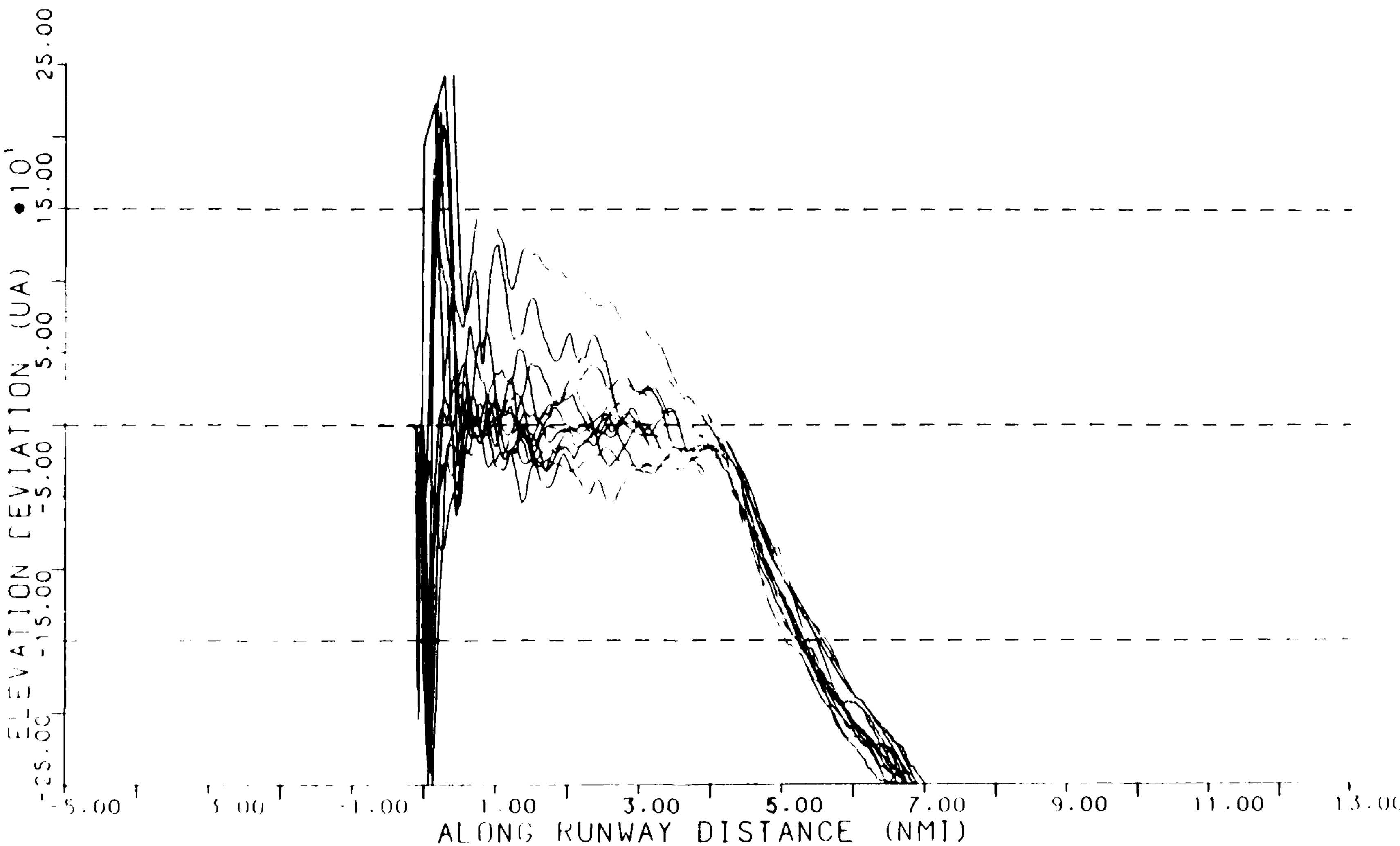


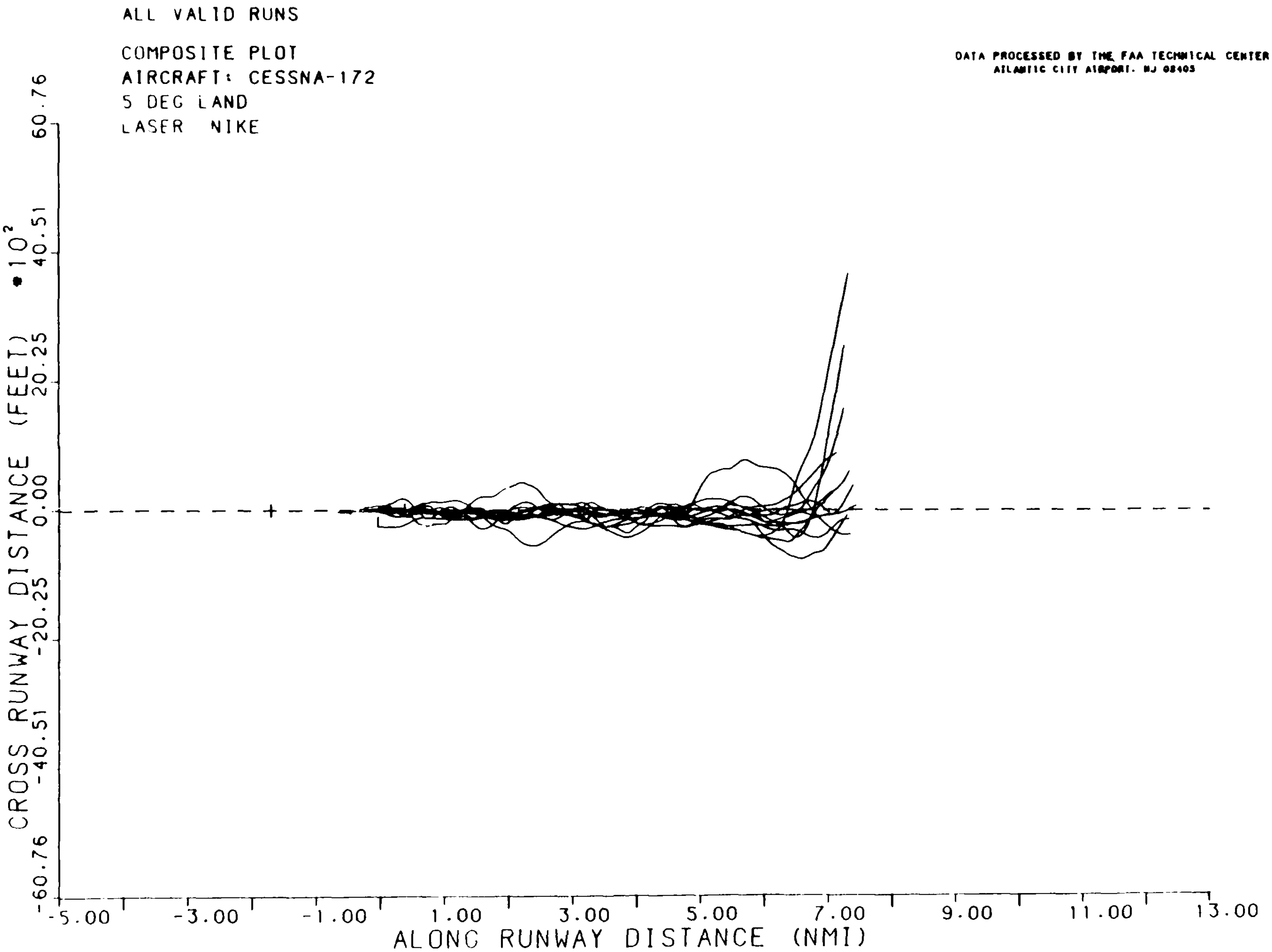

ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG LAND
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405
ALTITUDE (FEET AGL) *10¹
0.00
60.00
120.00
180.00
240.00
300.00
360.00
-5.00
-3.00
-1.00
1.00
3.00
5.00
7.00
9.00
11.00
13.00
ALONG RUNWAY DISTANCE (NMI)

ALL VALID RUNS

COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



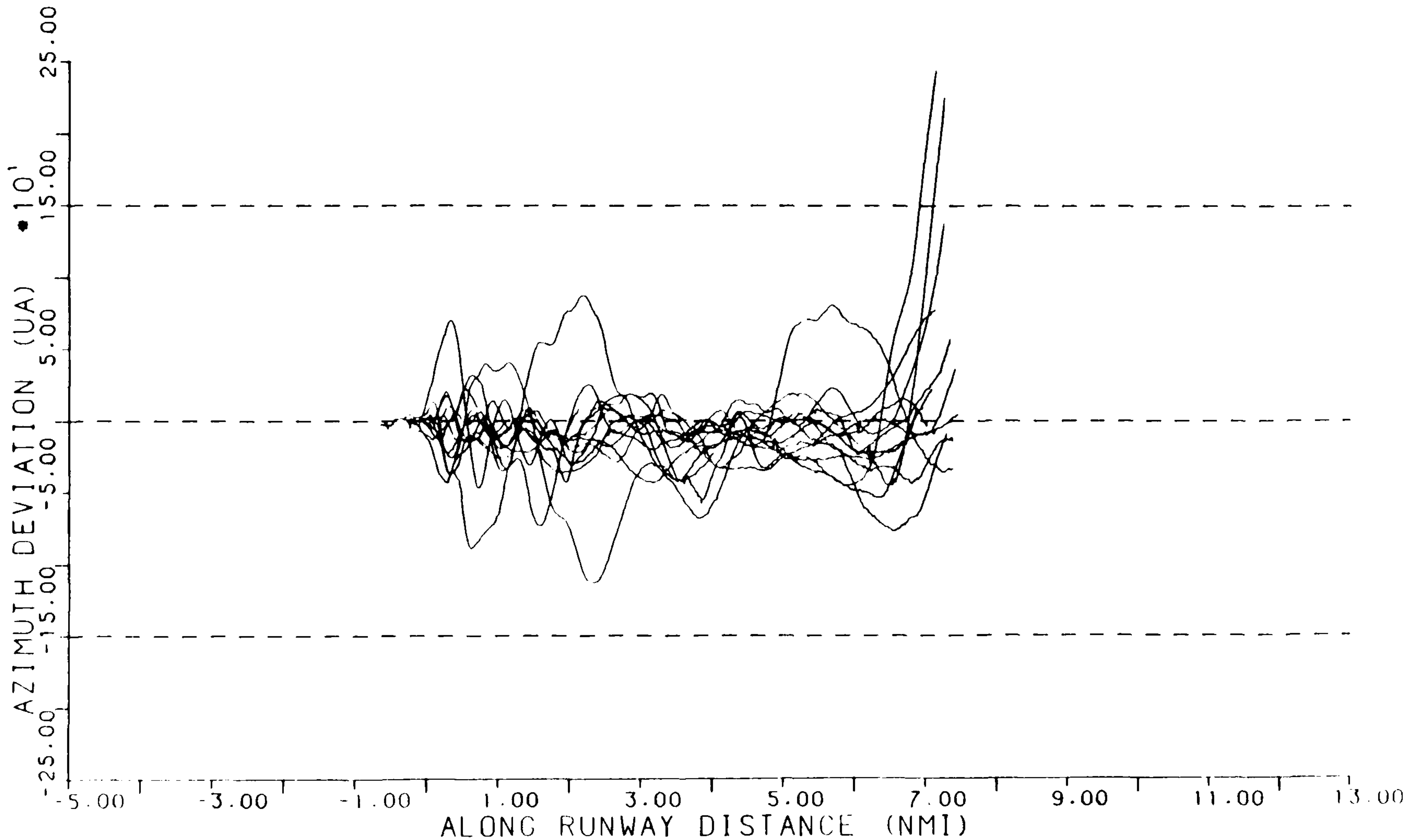


ALL VALID RUNS
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG LAND
LASER NIKE
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405
CROSS RUNWAY DISTANCE (FEET) *10²
60.76
40.51
20.25
0.00
-20.25
-40.51
-60.76
-5.00
-3.00
-1.00
1.00
3.00
5.00
7.00
9.00
11.00
13.00
ALONG RUNWAY DISTANCE (NMI)

ALL VALID RUNS

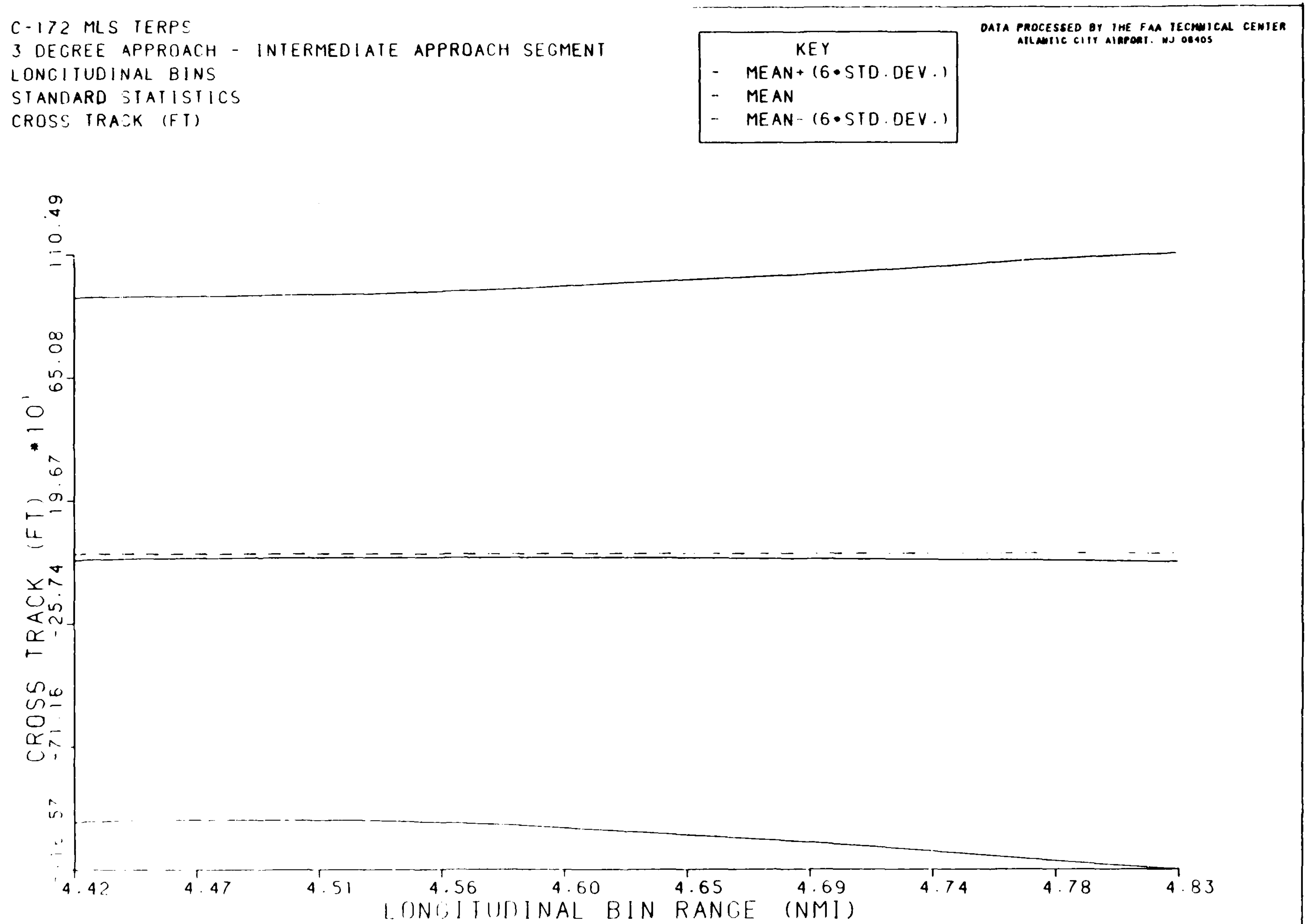
COMPOSITE PLOT
AIRCRAFT: CESSNA-172
5 DEG LAND

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



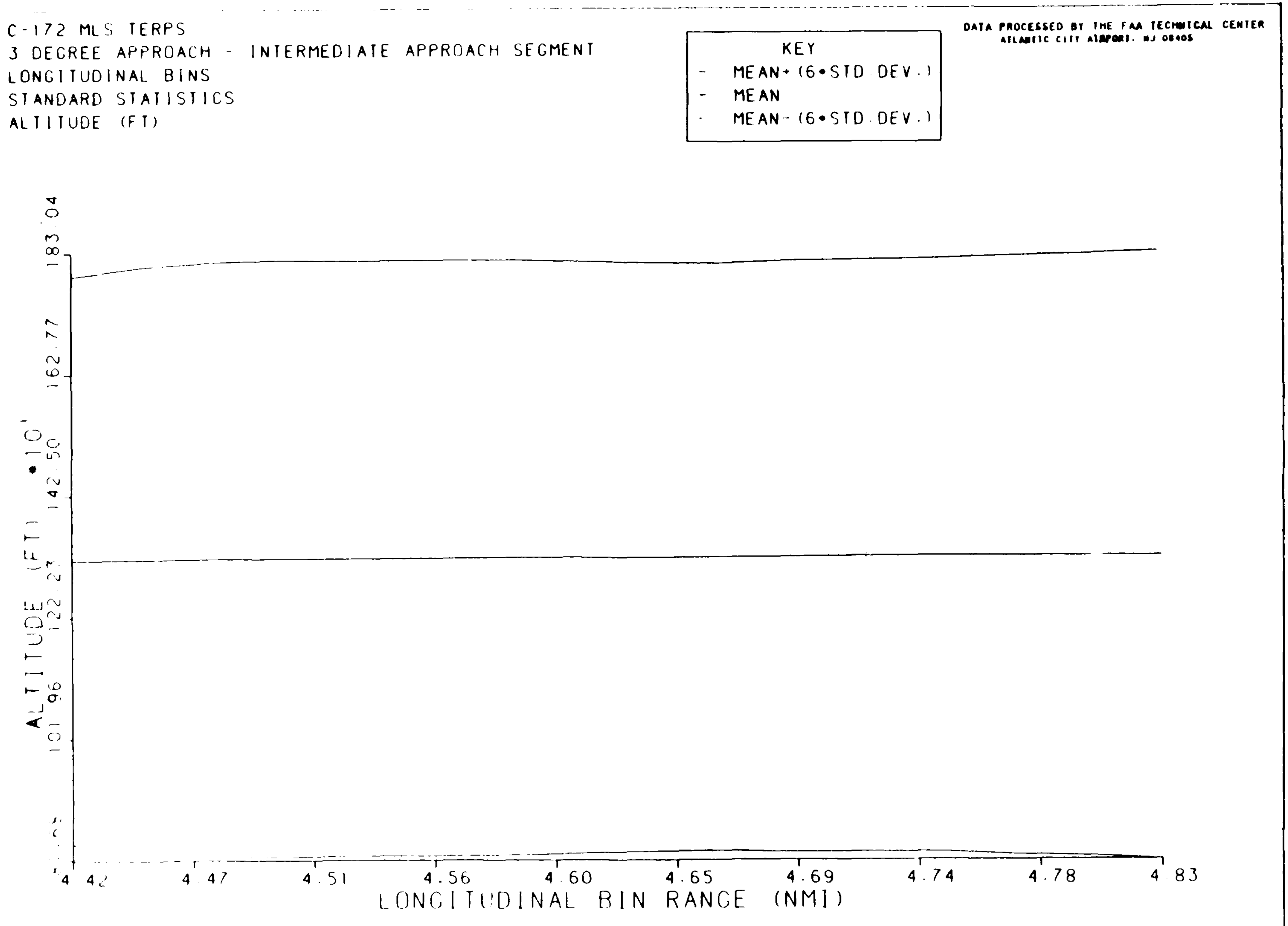
APPENDIX H

ISOPROBABILITY PLOTS



C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)
KEY
MEAN+(6•STD.DEV.)
MEAN
MEAN-(6•STD.DEV.)
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405
110.49
65.08
19.67
-25.74
-71.16
CROSS TRACK (FT) *10
4.42
4.47
4.51
4.56
4.60
4.65
4.69
4.74
4.78
4.83
LONGITUDINAL BIN RANGE (NMI)

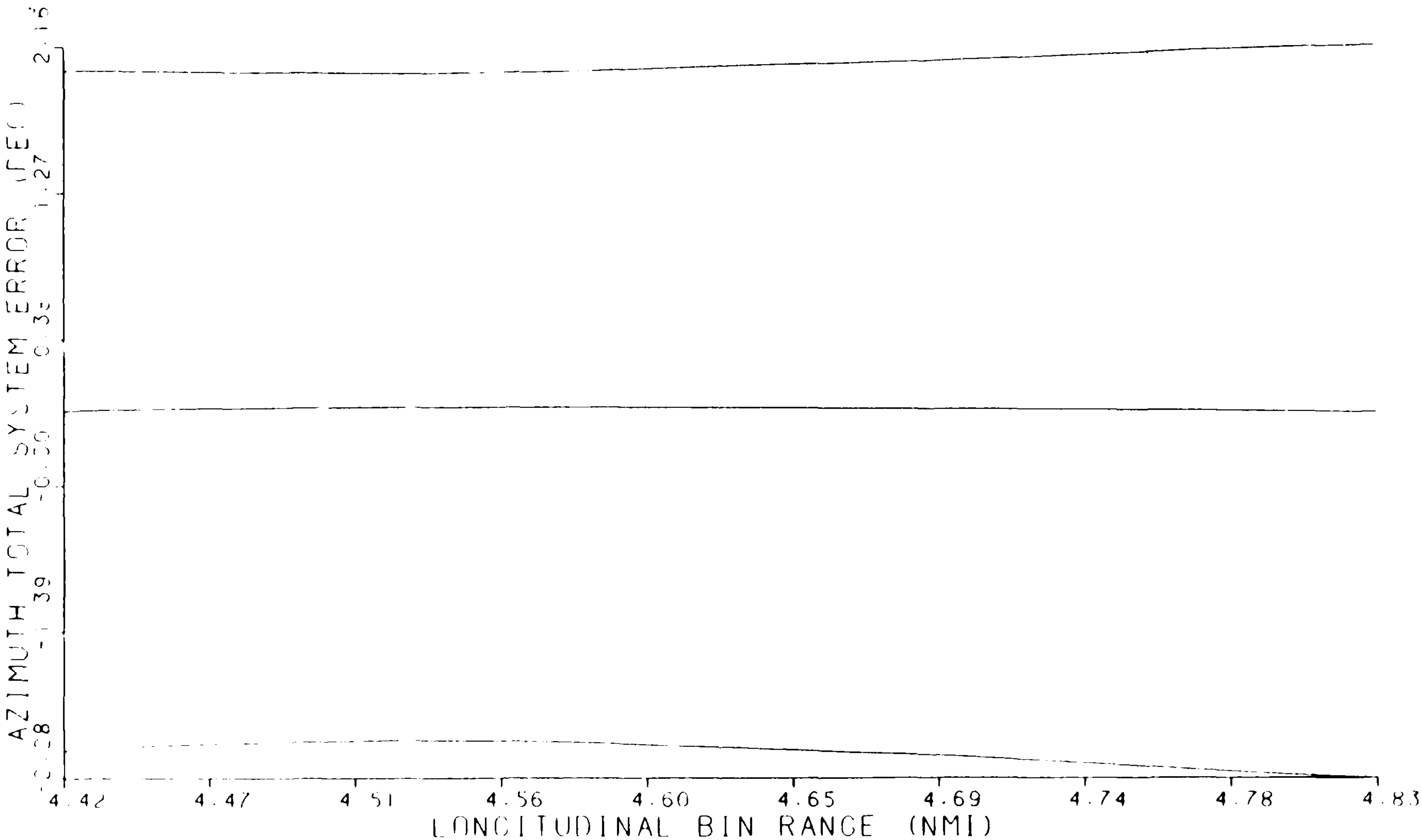
C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ALTITUDE (FT)



C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (DEG)

KEY
MEAN+(6•STD DEV.)
MEAN
MEAN-(6•STD DEV.)

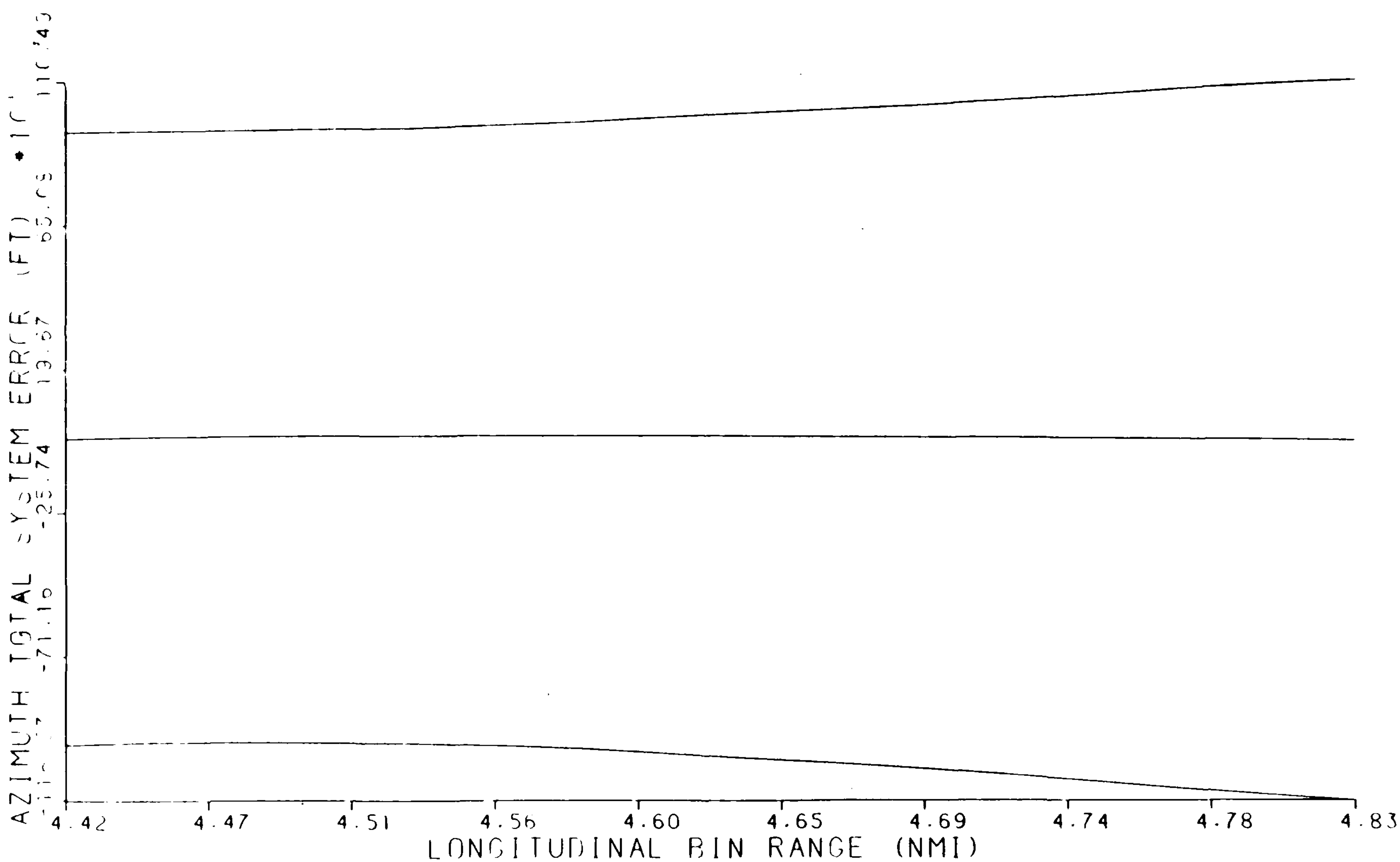
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (FT)

KEY
- MEAN+(6•STD.DEV.)
- MEAN
- MEAN-(6•STD.DEV.)

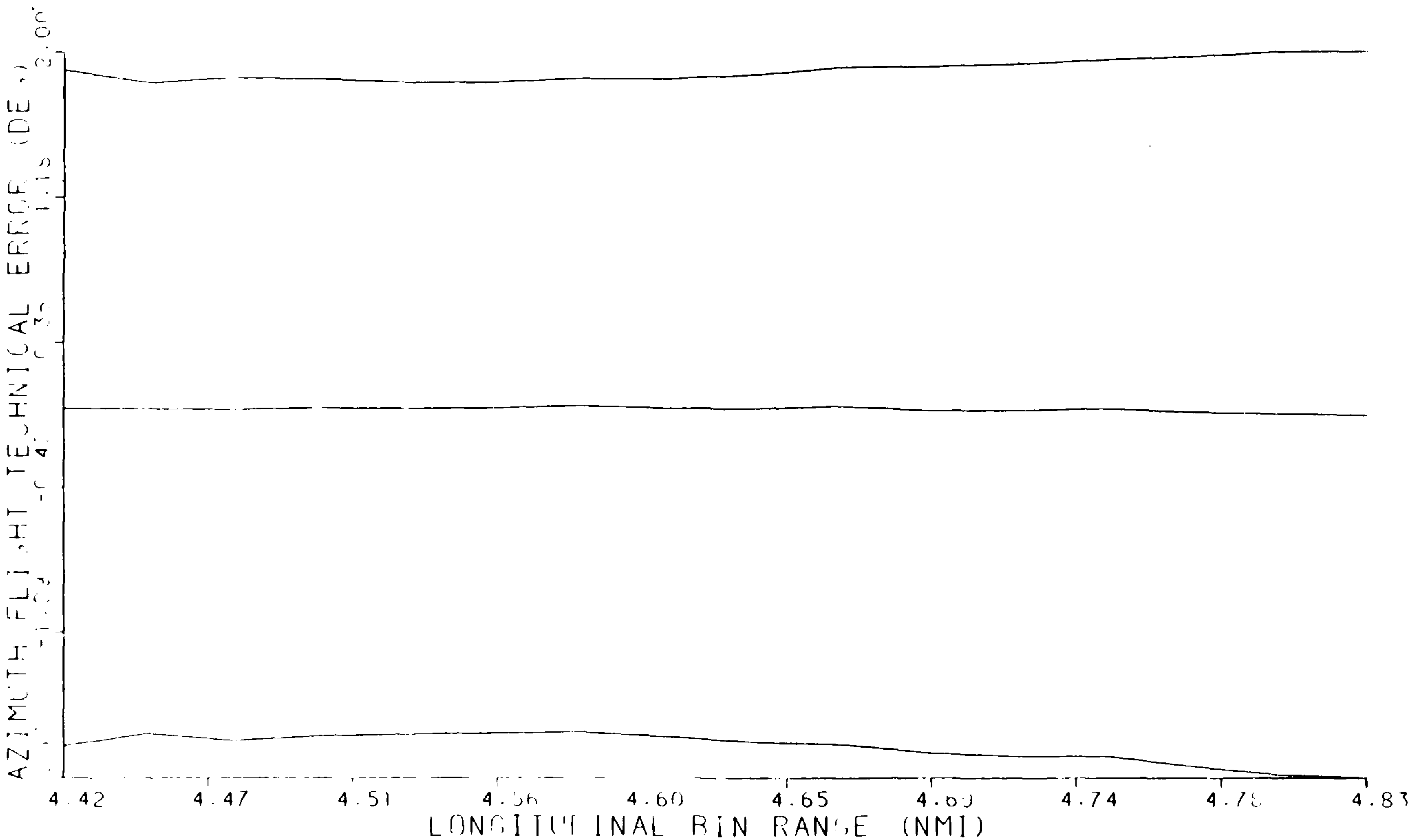
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

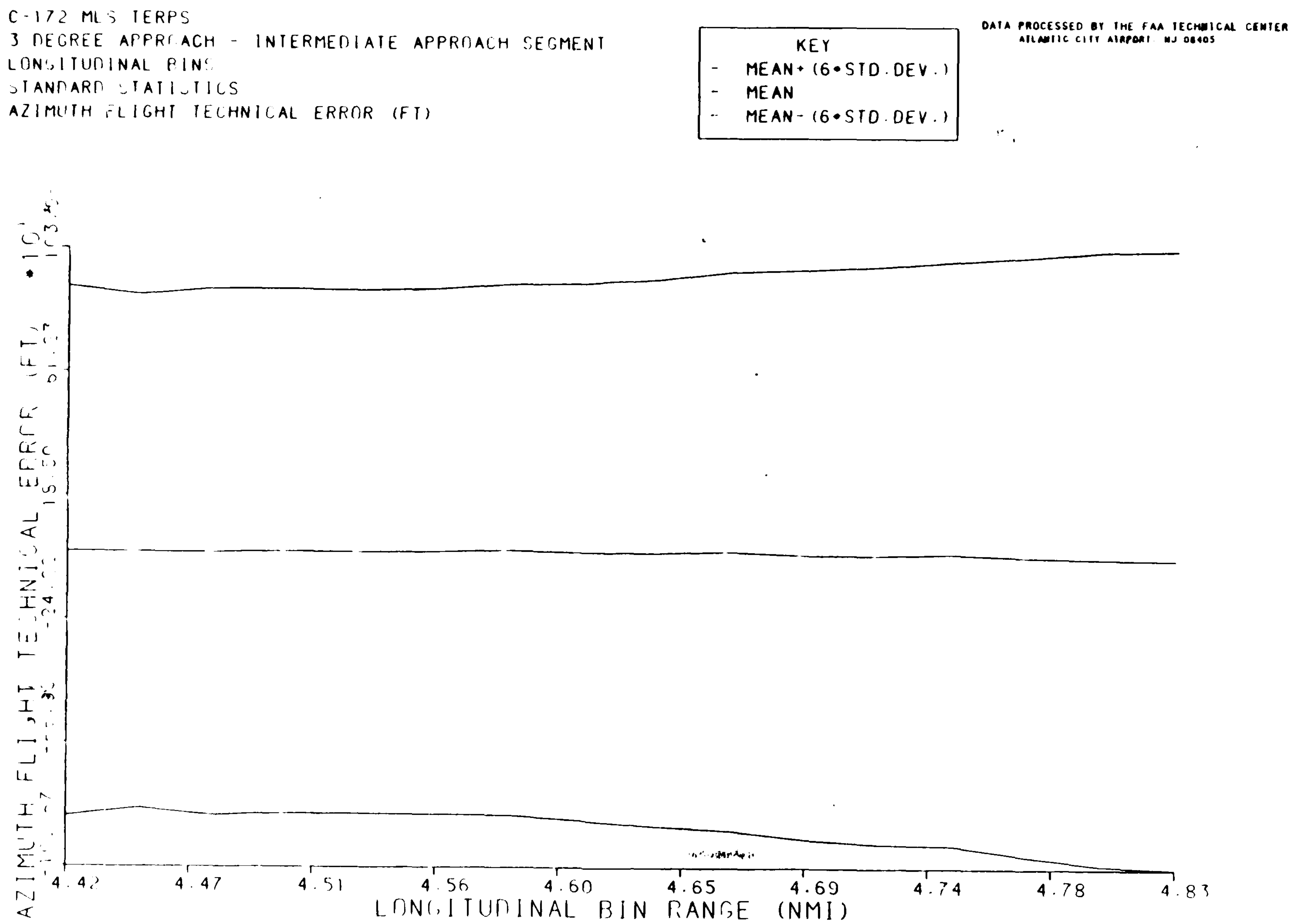


C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (DEG)

KEY
- MEAN+(6*STD.DEV.)
- MEAN
- MEAN-(6*STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



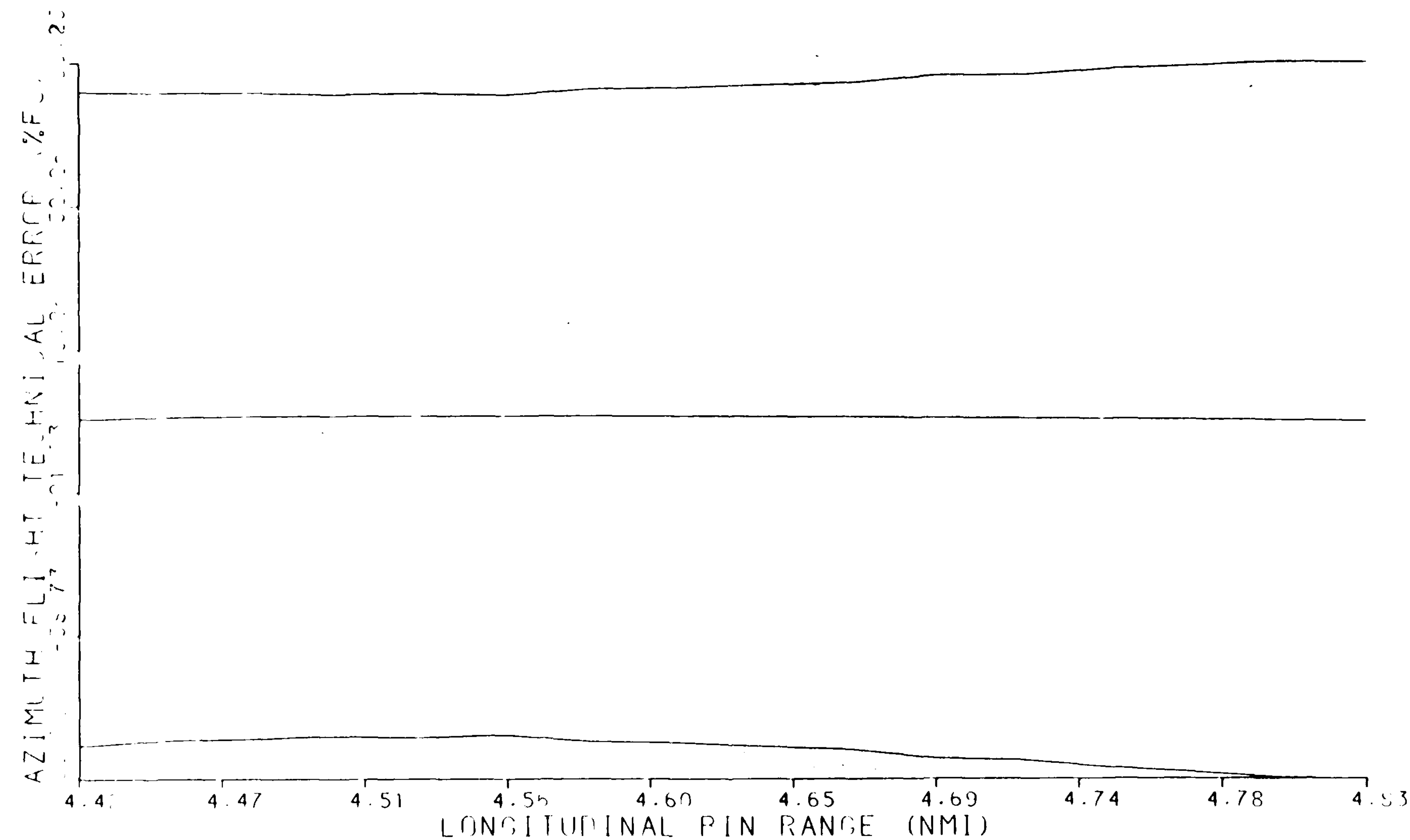


C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (FT)
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
KEY
- MEAN+(6*STD.DEV.)
- MEAN
- MEAN-(6*STD.DEV.)
AZIMUTH FLIGHT TECHNICAL ERROR (FT) *10[1]
4.42
4.47
4.51
4.56
4.60
4.65
4.69
4.74
4.78
4.83
LONGITUDINAL BIN RANGE (NMI)

C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (%FS)

KEY
- MEAN+(6*STD.DEV.)
- MEAN
- MEAN-(6*STD.DEV.)

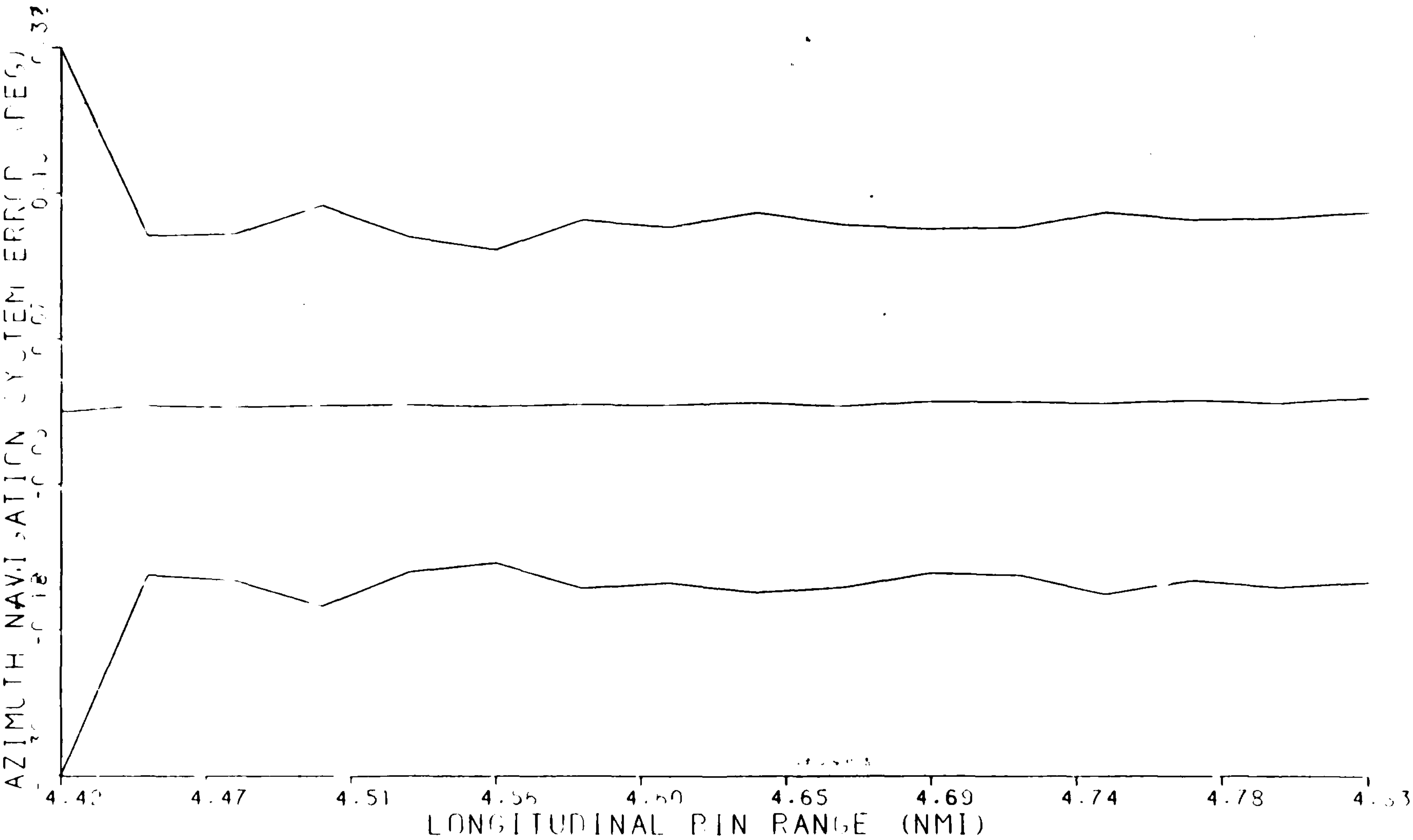
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (DEG)

KEY
- MEAN+(6*STD.DEV.)
- MEAN
- MEAN-(6*STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

KEY
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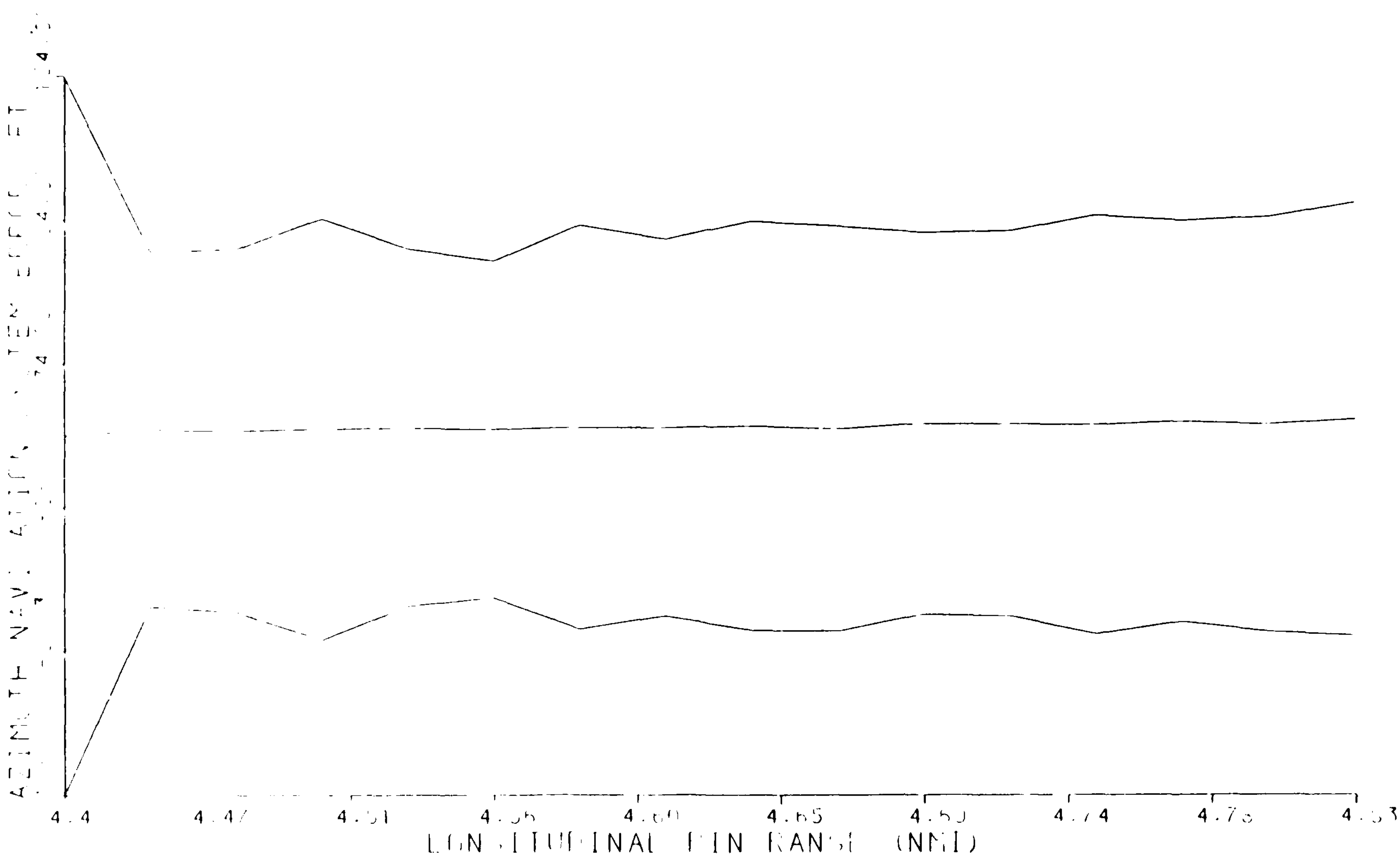
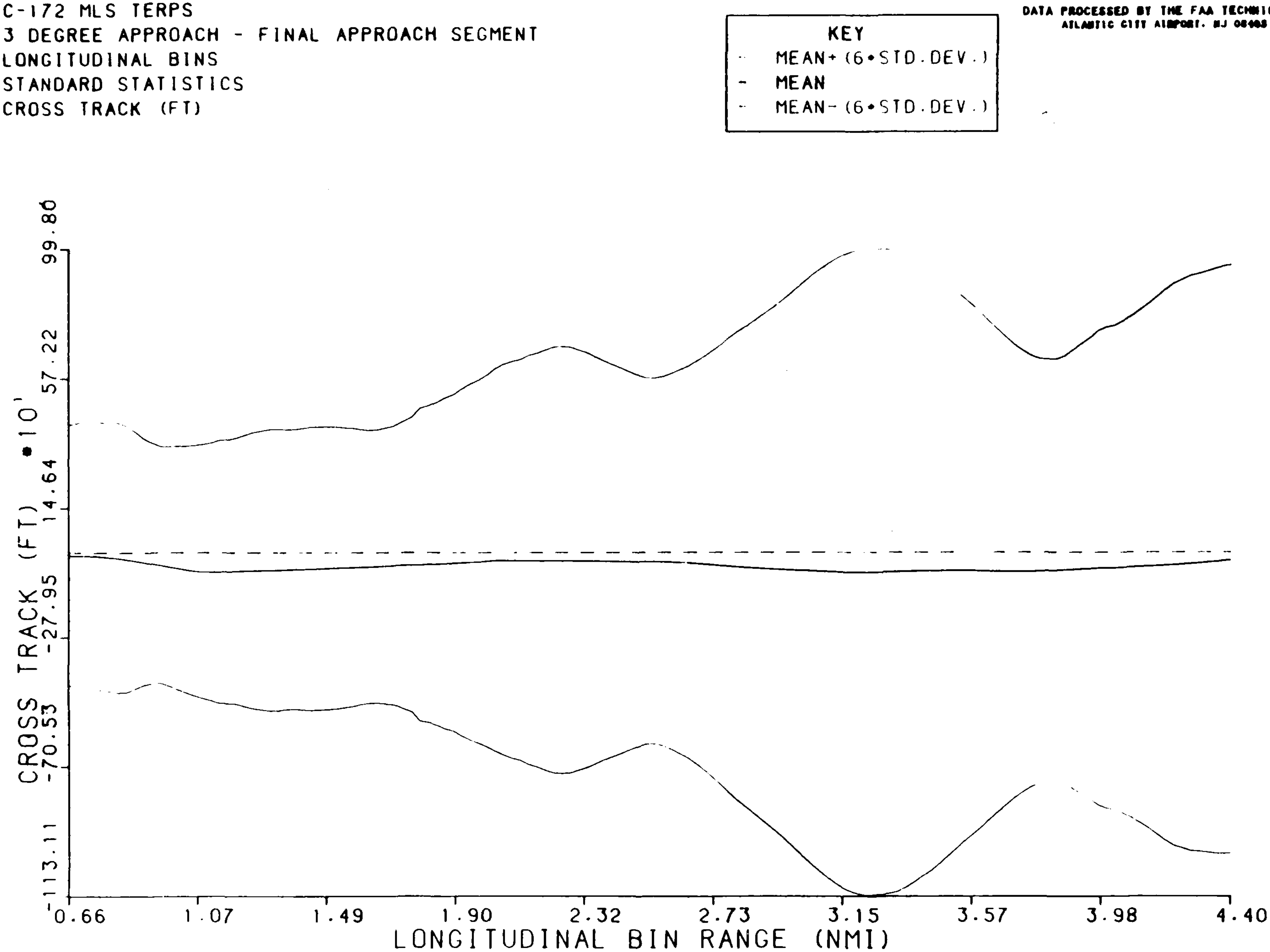
- MEAN
- MEAN-(6•STD.DEV.)



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

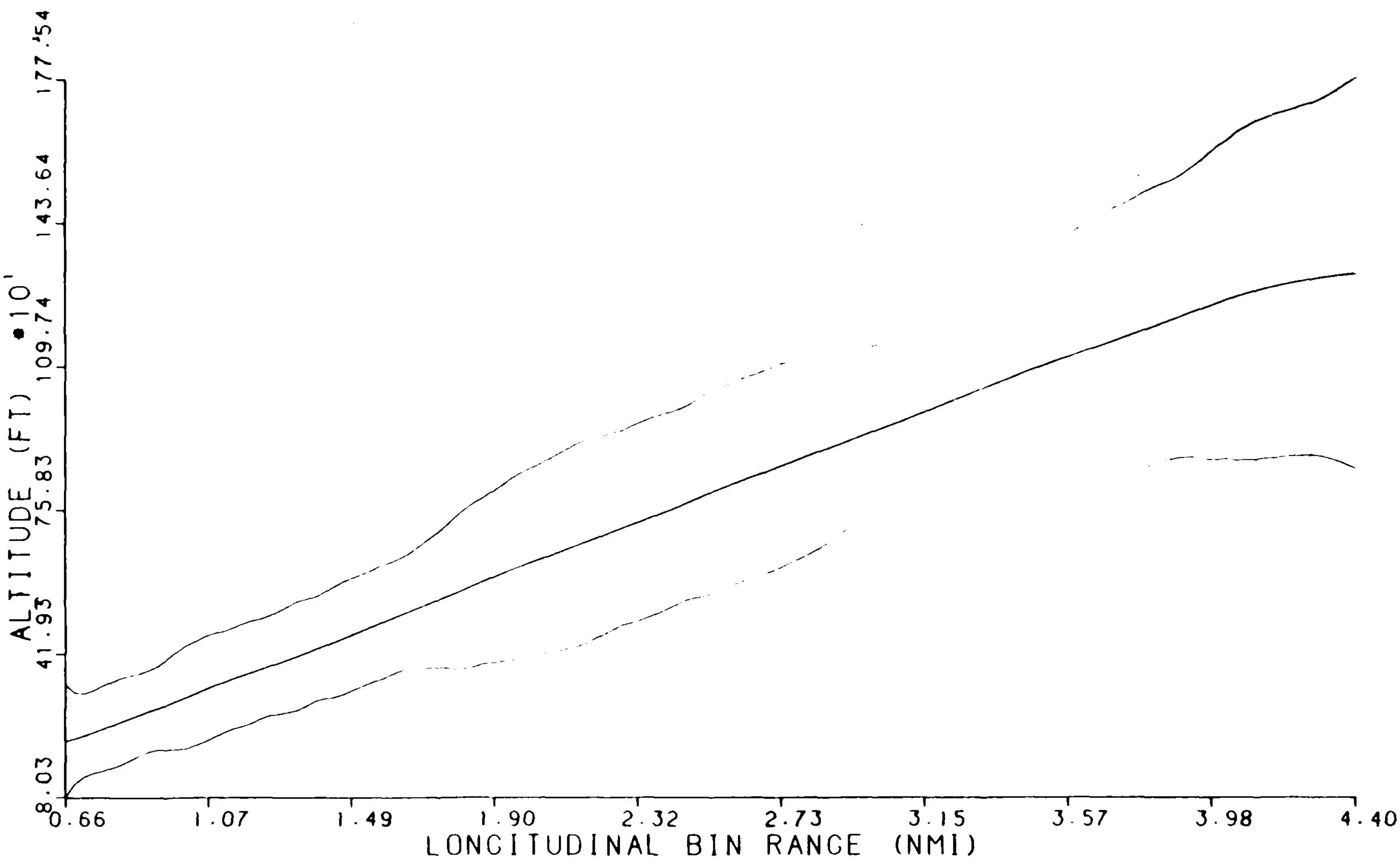
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ALTITUDE (FT)

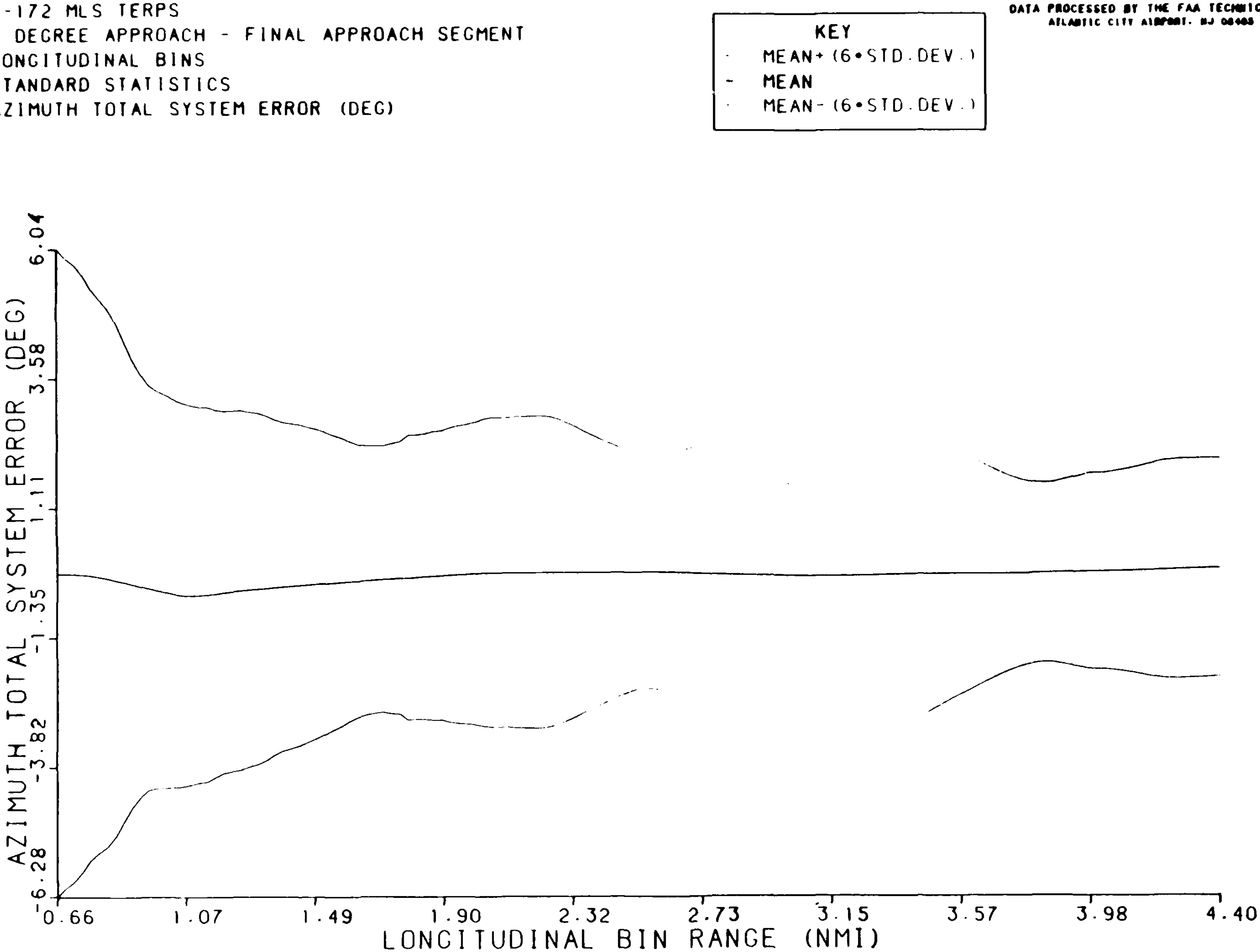
KEY
MEAN+(6•STD.DEV.)
MEAN
MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (DEG)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (FT)

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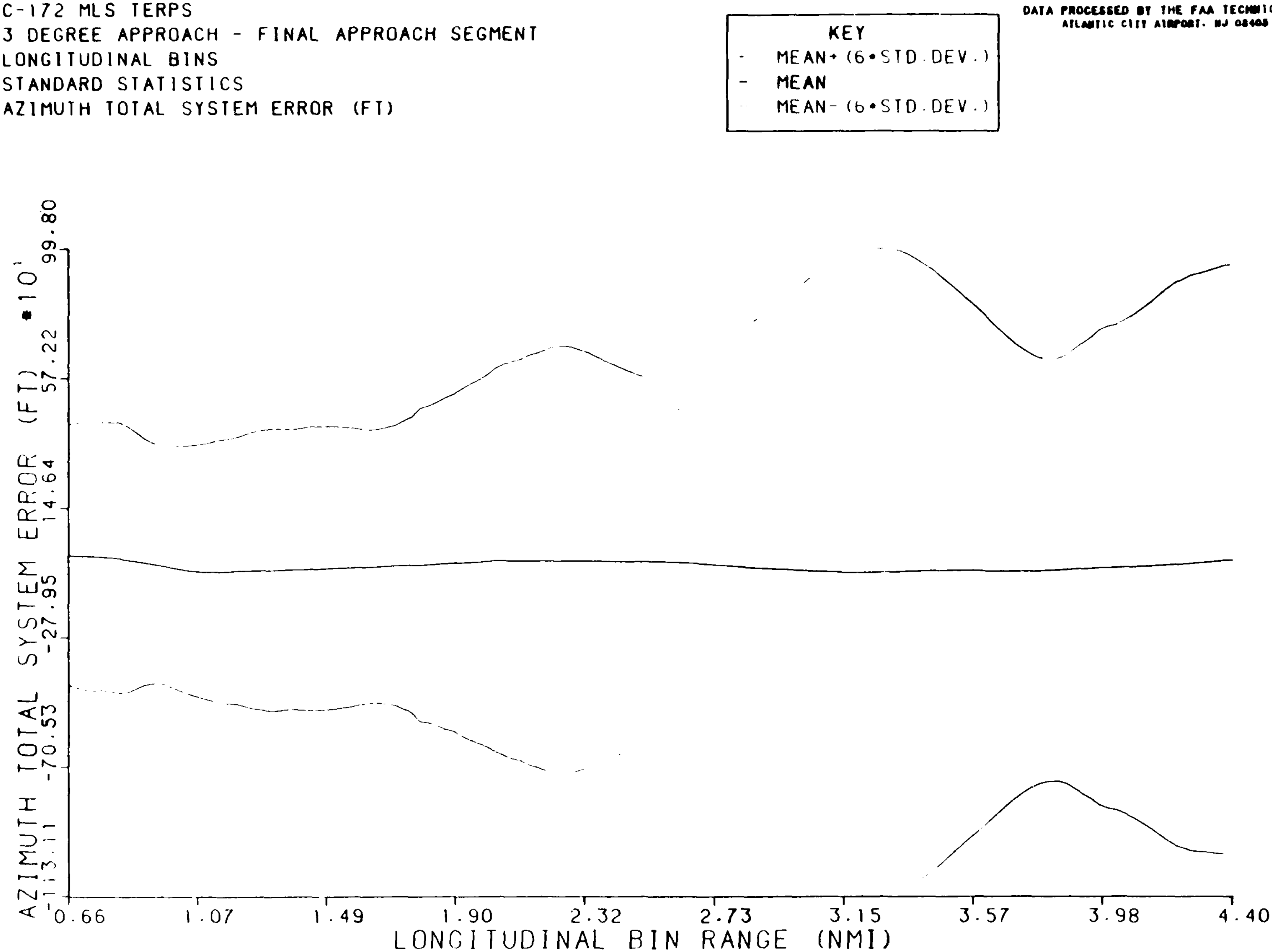
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (DEG)

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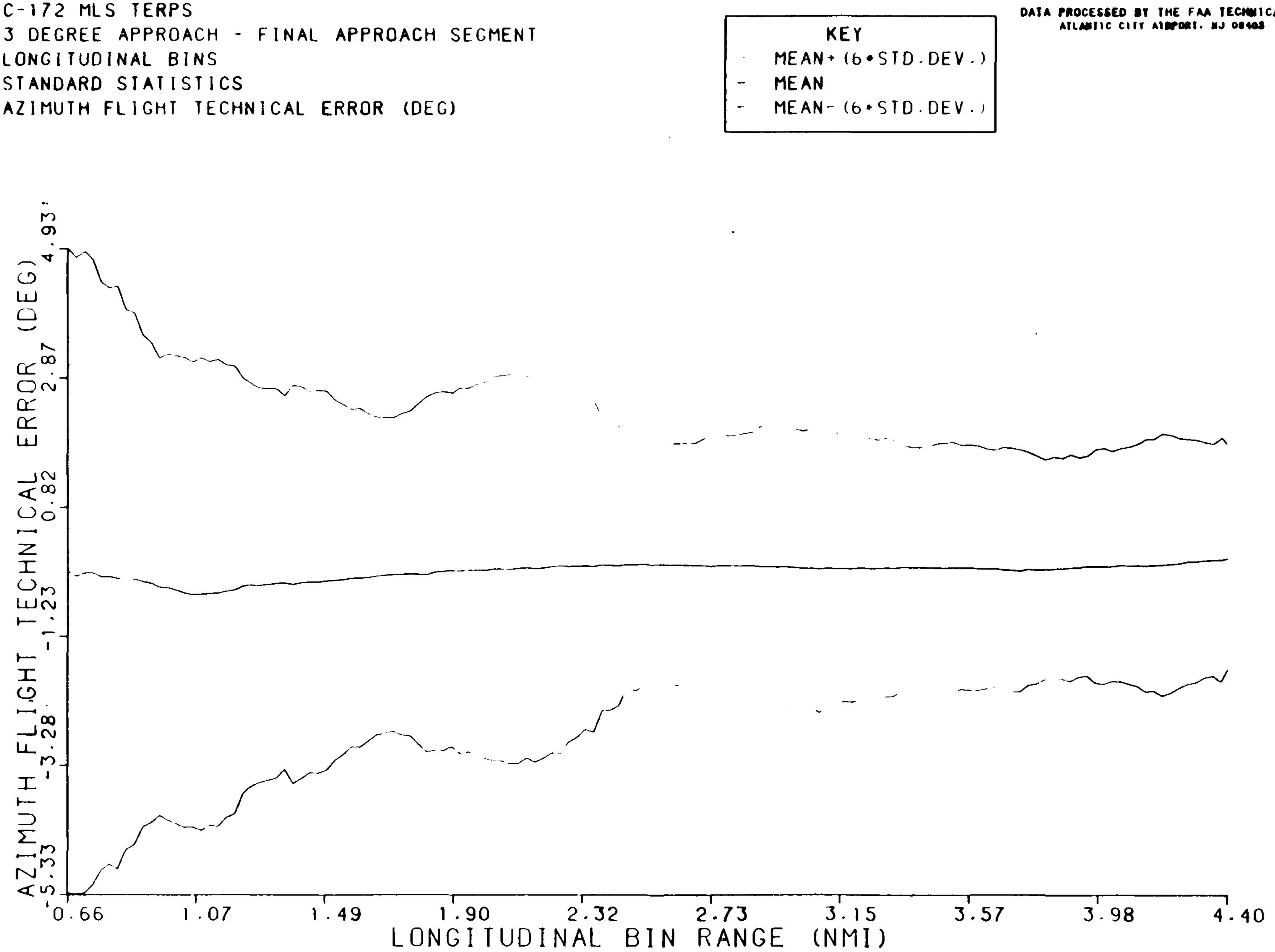
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (FT)

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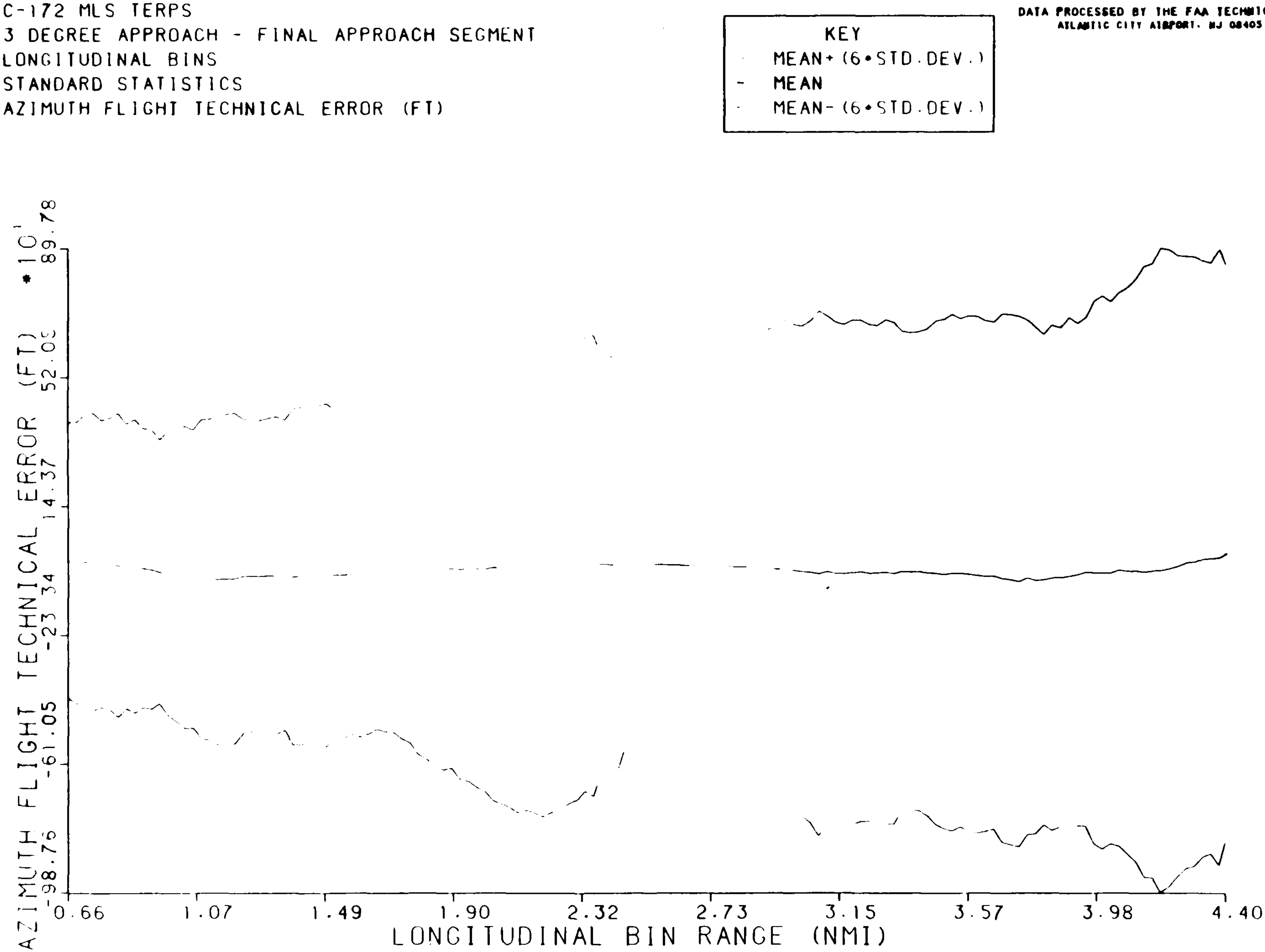
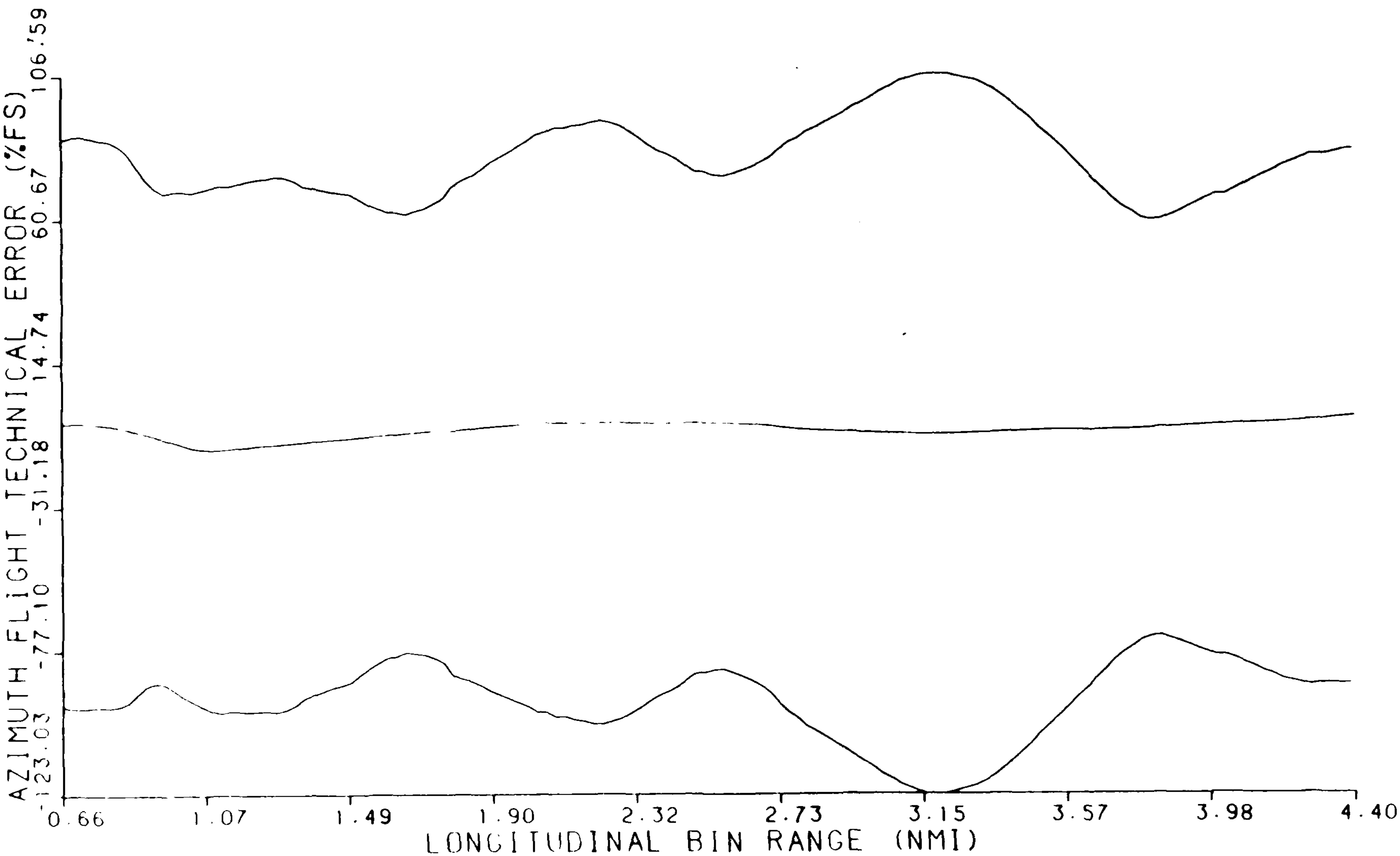
ATLANTIC CITY AIRPORT, NJ 08405



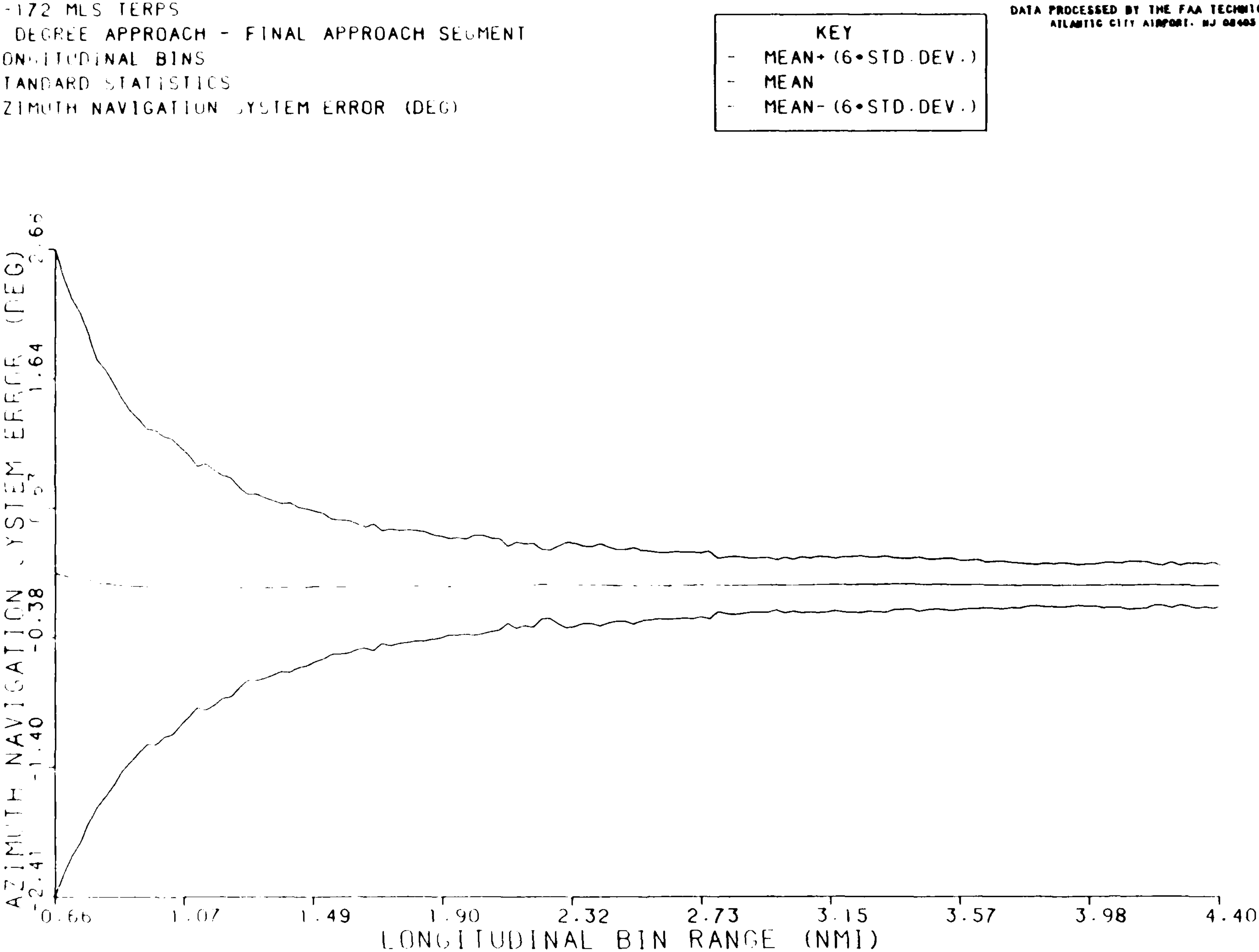
C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (%FS)

KEY
MEAN+(6•STD.DEV.)
MEAN
MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (DEG)



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (FT)

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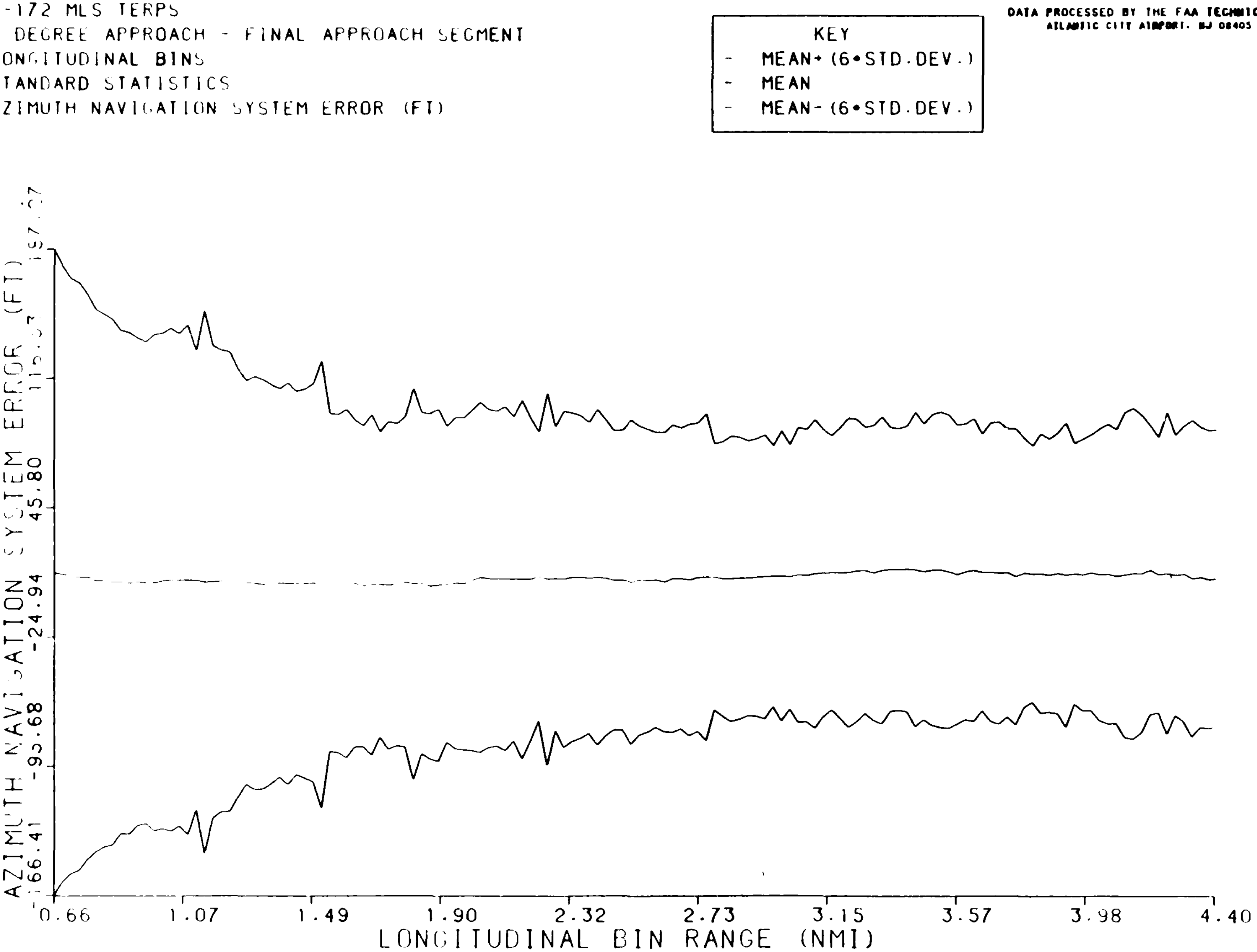
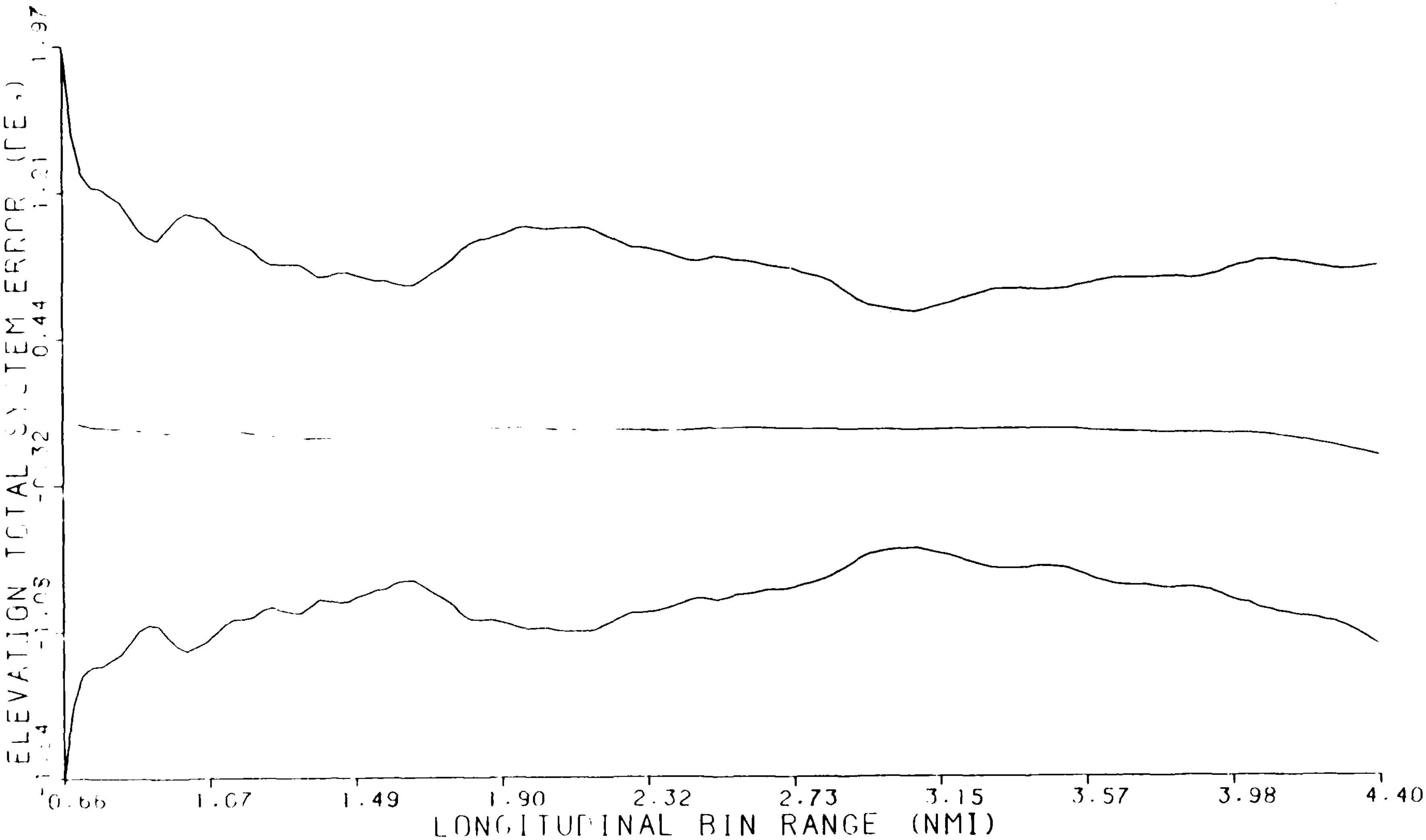
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION TOTAL SYSTEM ERROR (DEG)

KEY
- MEAN+(6•STD.DEV.)
- MEAN
- MEAN-(6•STD.DEV.)

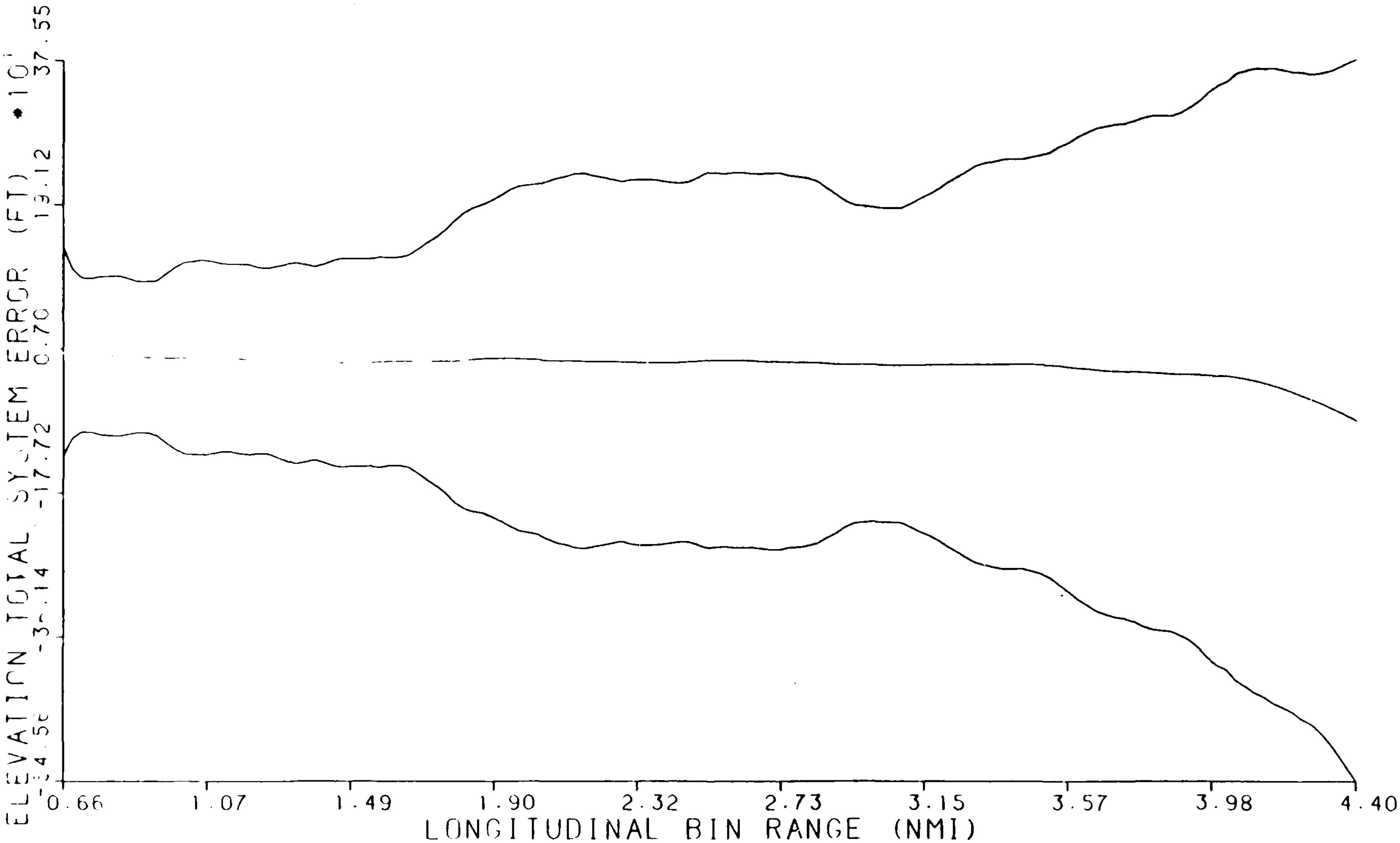
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION TOTAL SYSTEM ERROR (FT)

KEY
- MEAN+(6•STD.DEV.)
- MEAN
- MEAN-(6•STD.DEV.)

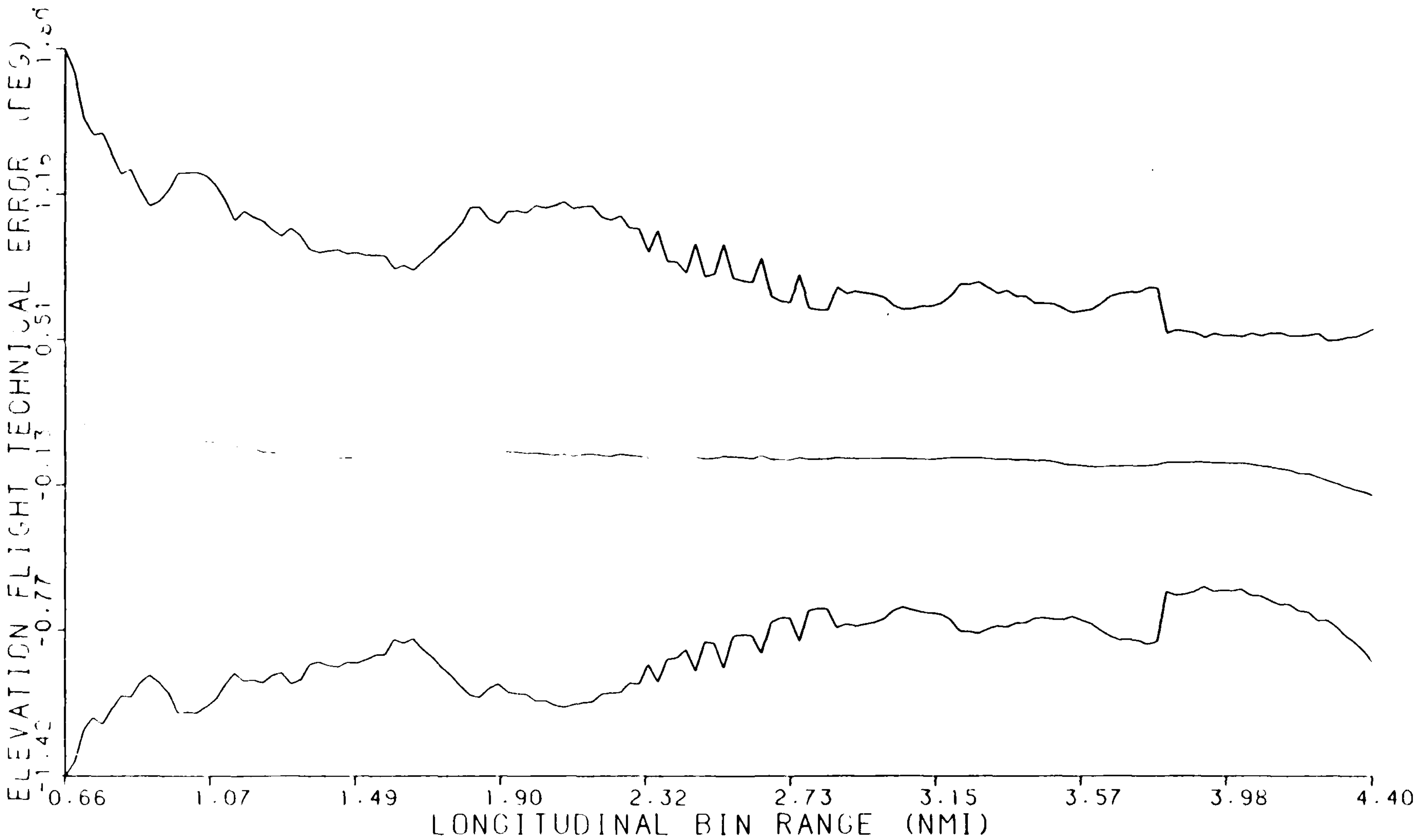
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (DEG)

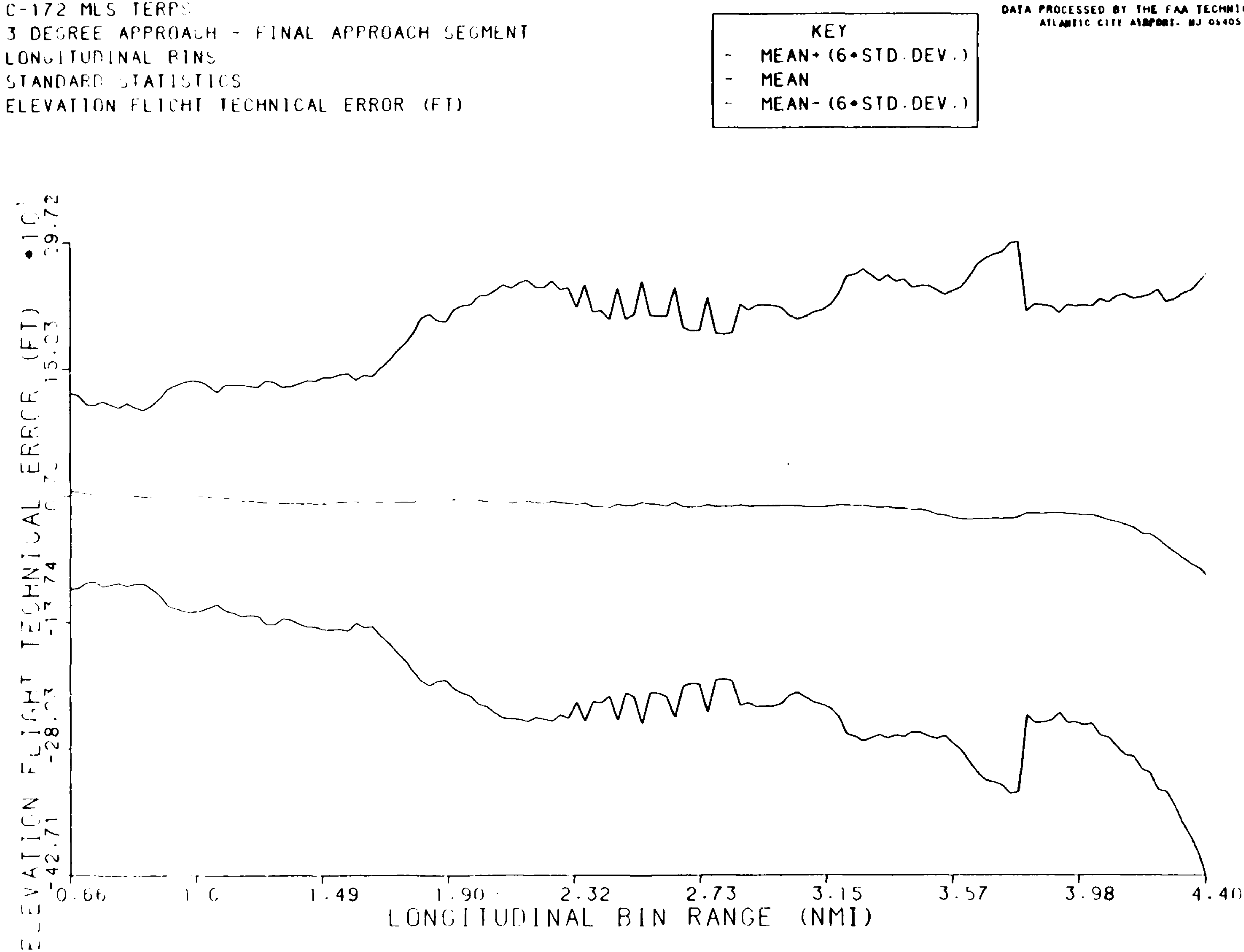
KEY
- MEAN+(6•STD.DEV.)
- MEAN
- MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (FT)

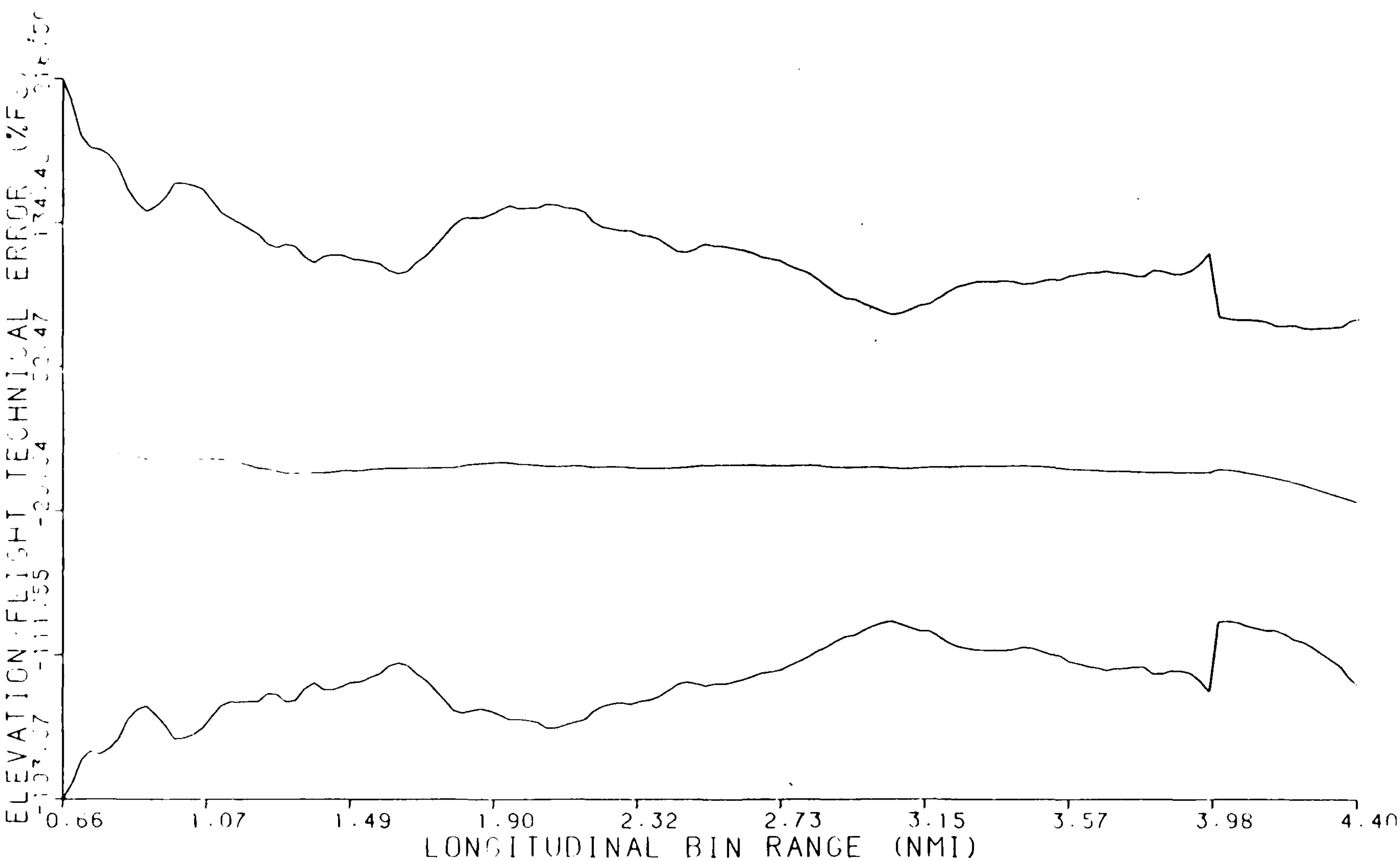
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (%FS)

KEY
- MEAN+(6•STD.DEV.)
- MEAN
- MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION NAVIGATION SYSTEM ERROR (DEG)

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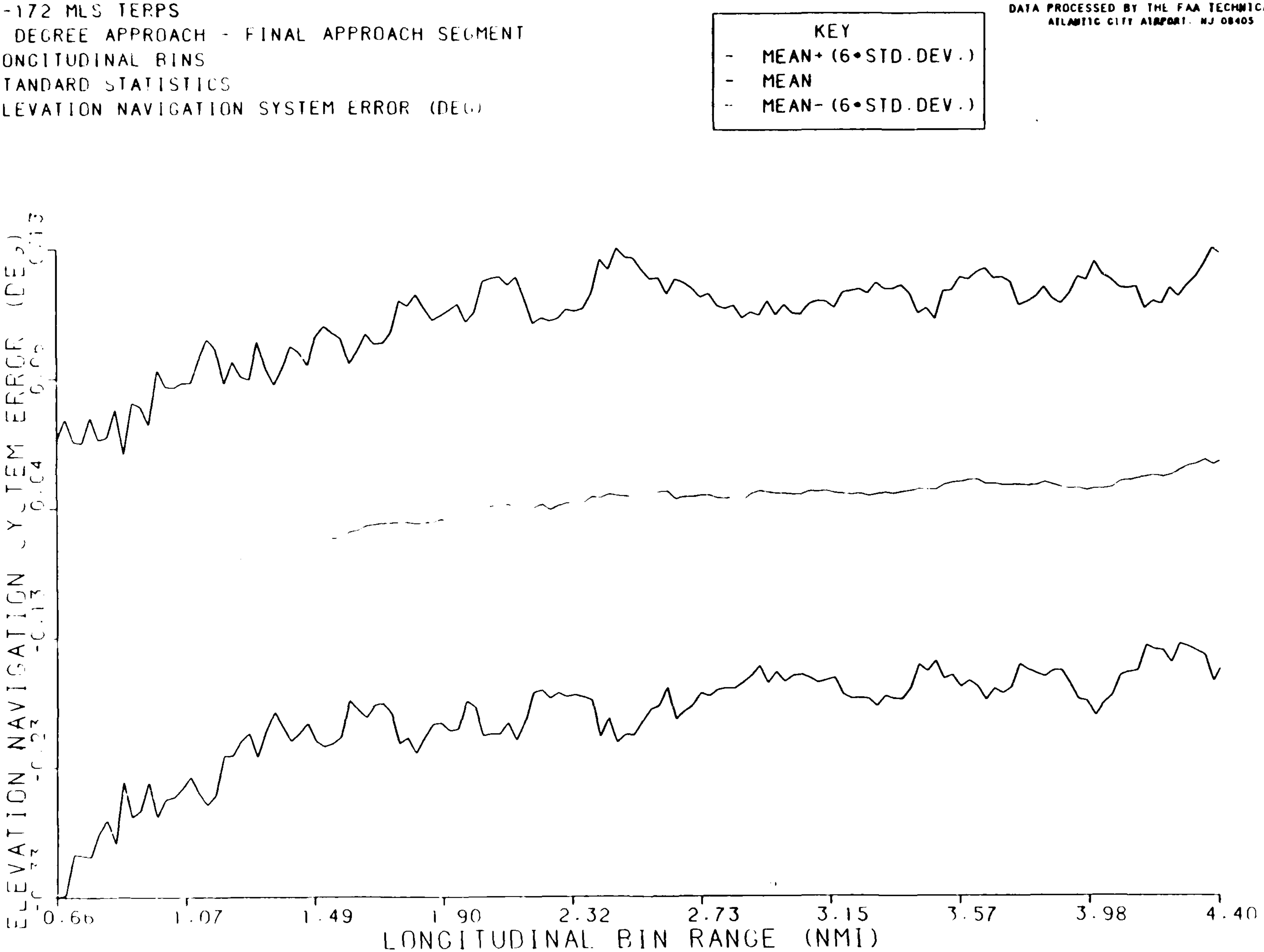
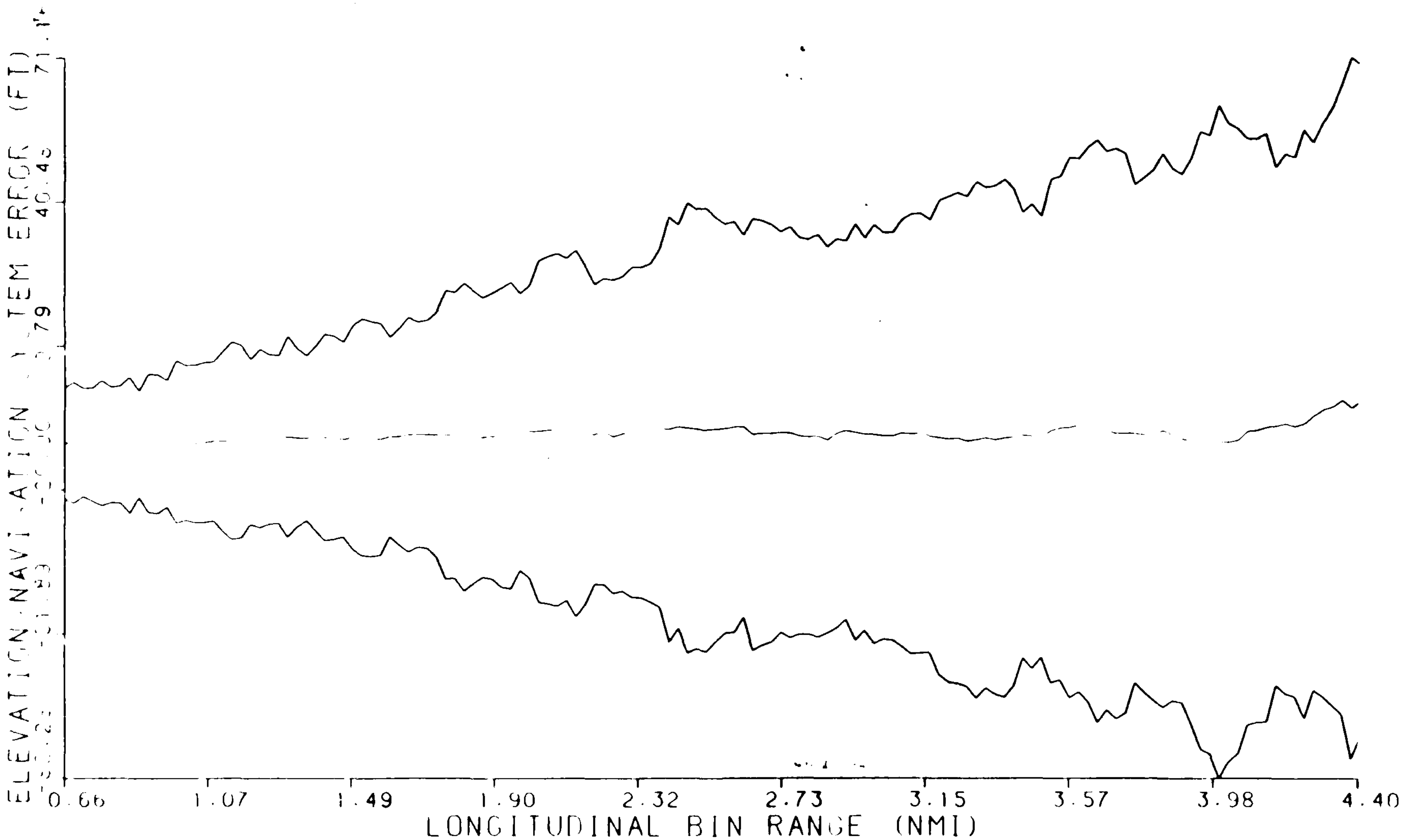
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION NAVIGATION SYSTEM ERROR (FT)

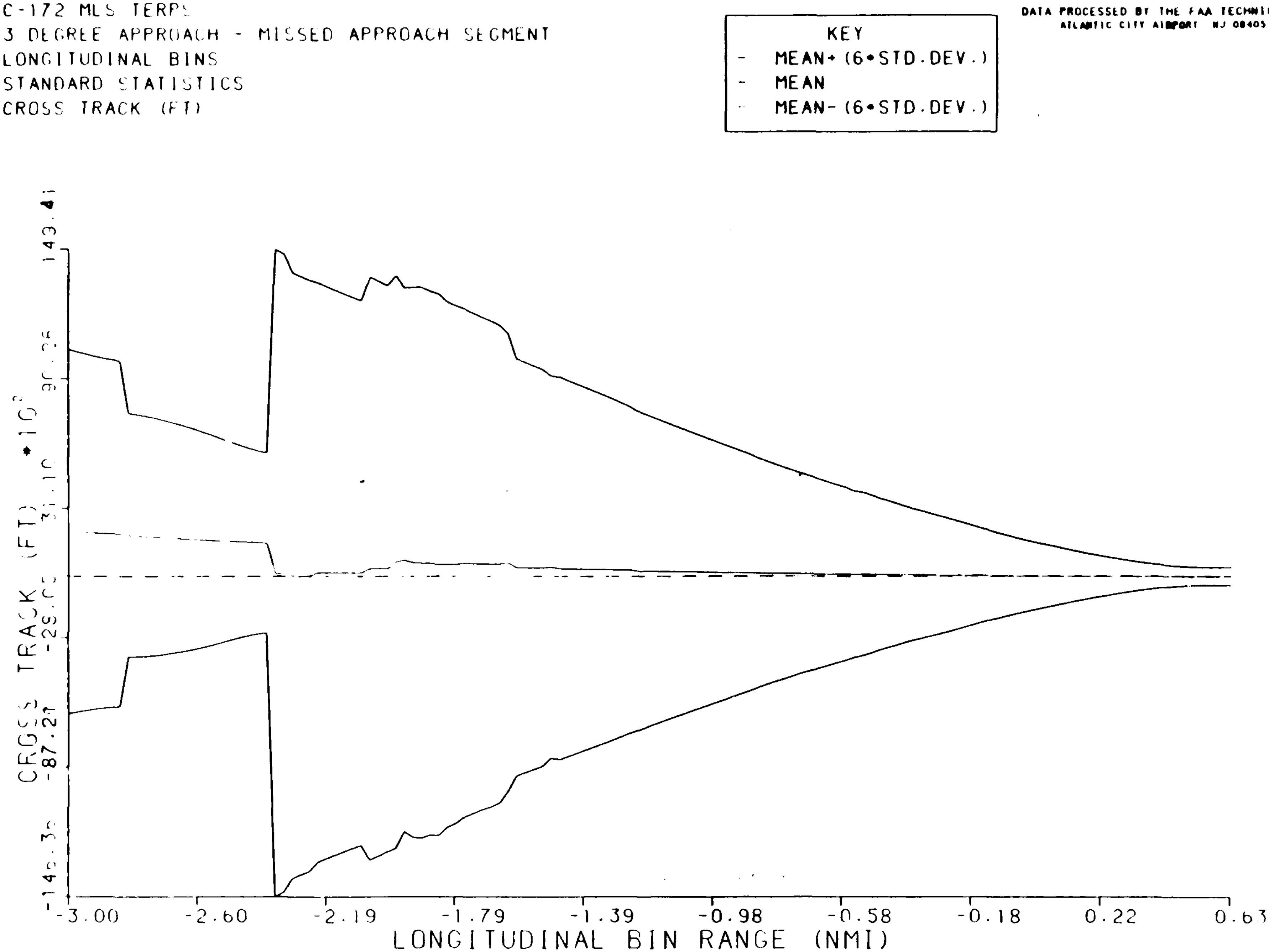
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

KEY
- MEAN+(6*STD.DEV.)
- MEAN
- MEAN-(6*STD.DEV.)

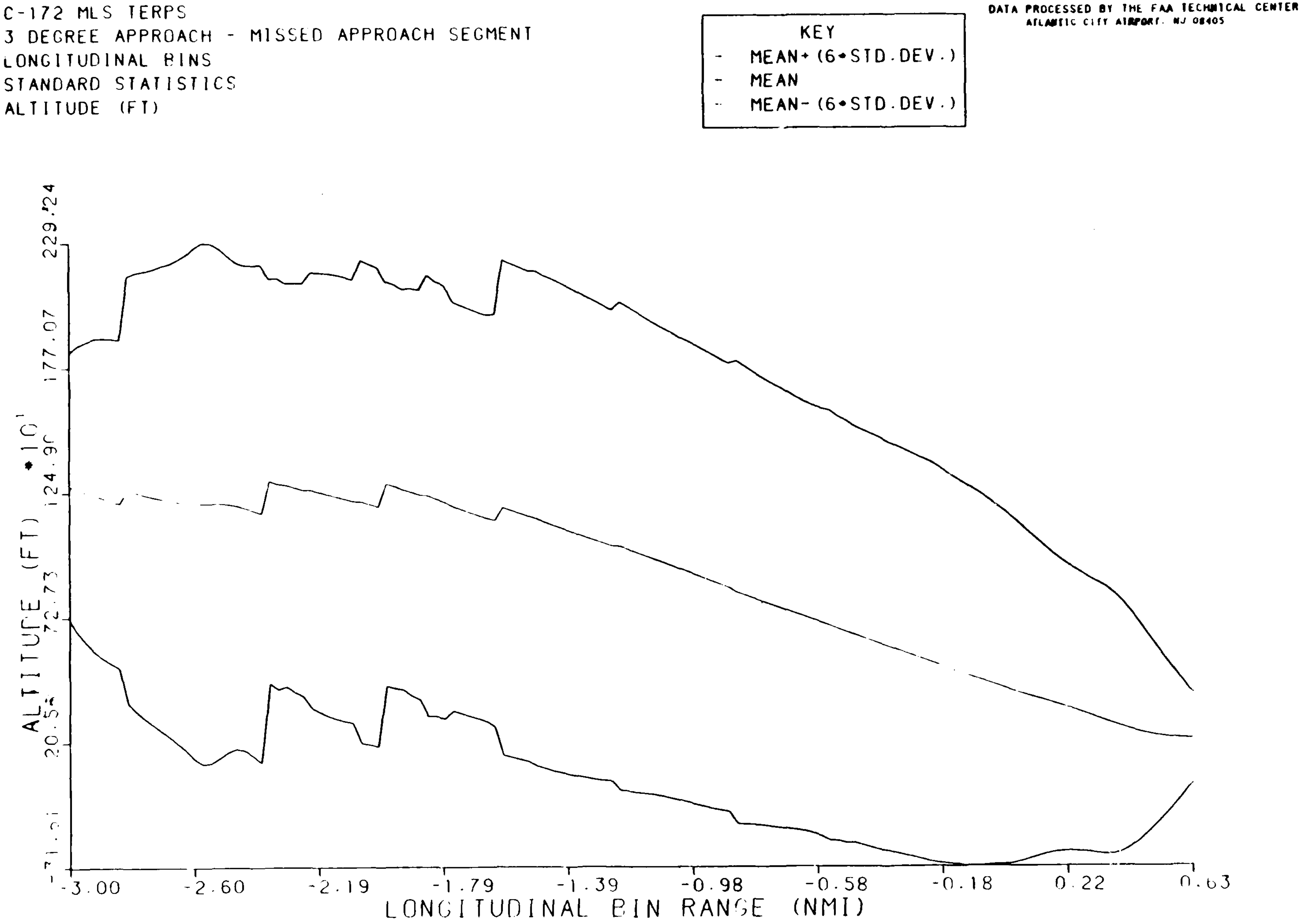


C-172 MLS TERPS
3 DEGREE APPROACH - MISSED APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - MISSED APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ALTITUDE (FT)



C-172 MLS TERPS
3 DEGREE APPROACH - MISSED APPROACH SEGMENT
VERTICAL BINS
STANDARD STATISTICS
ALONG TRACK (FT)

KEY
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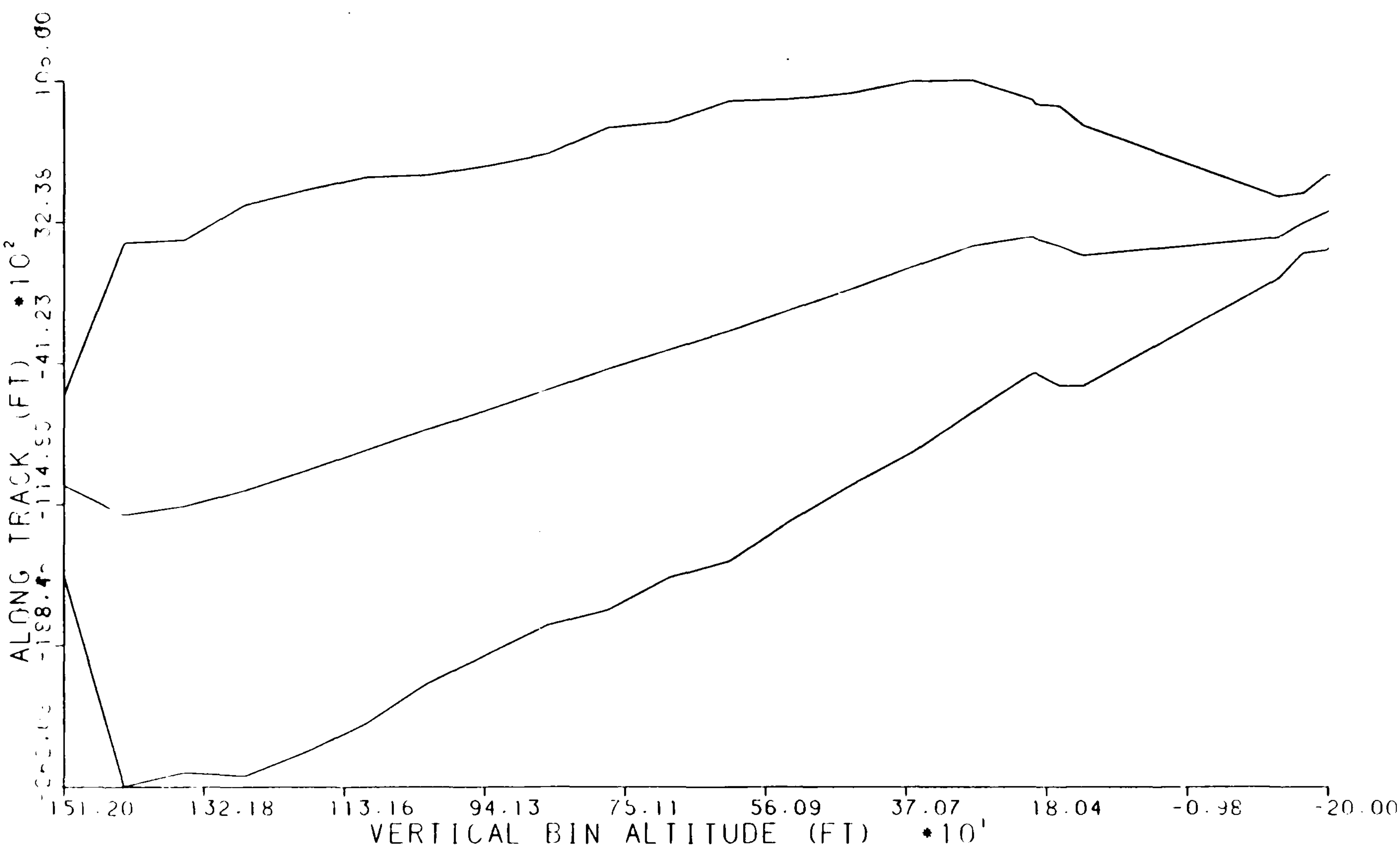
- MEAN
- MEAN-(6*STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
3 DEGREE APPROACH - MISSED APPROACH SEGMENT
VERTICAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

KEY
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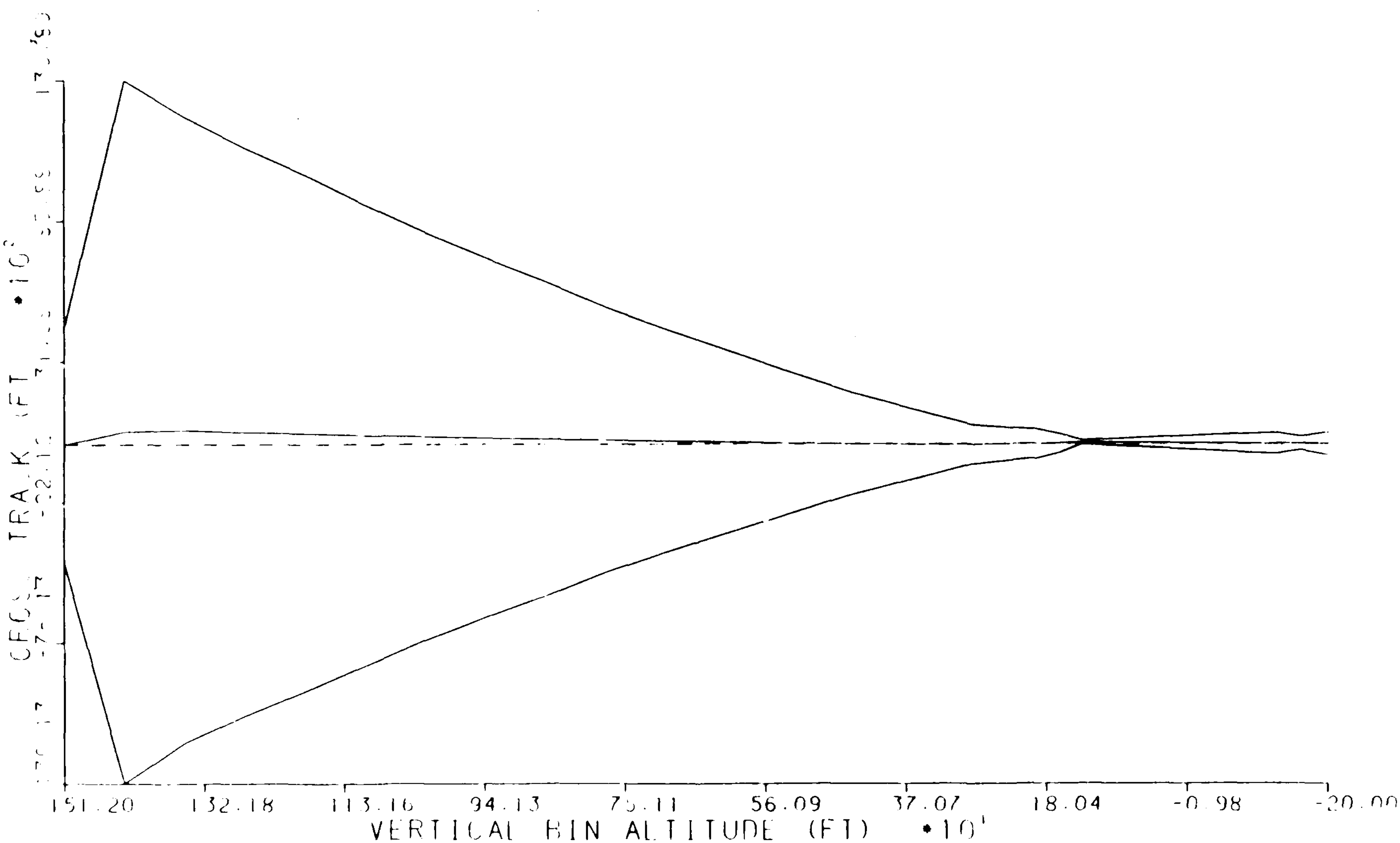
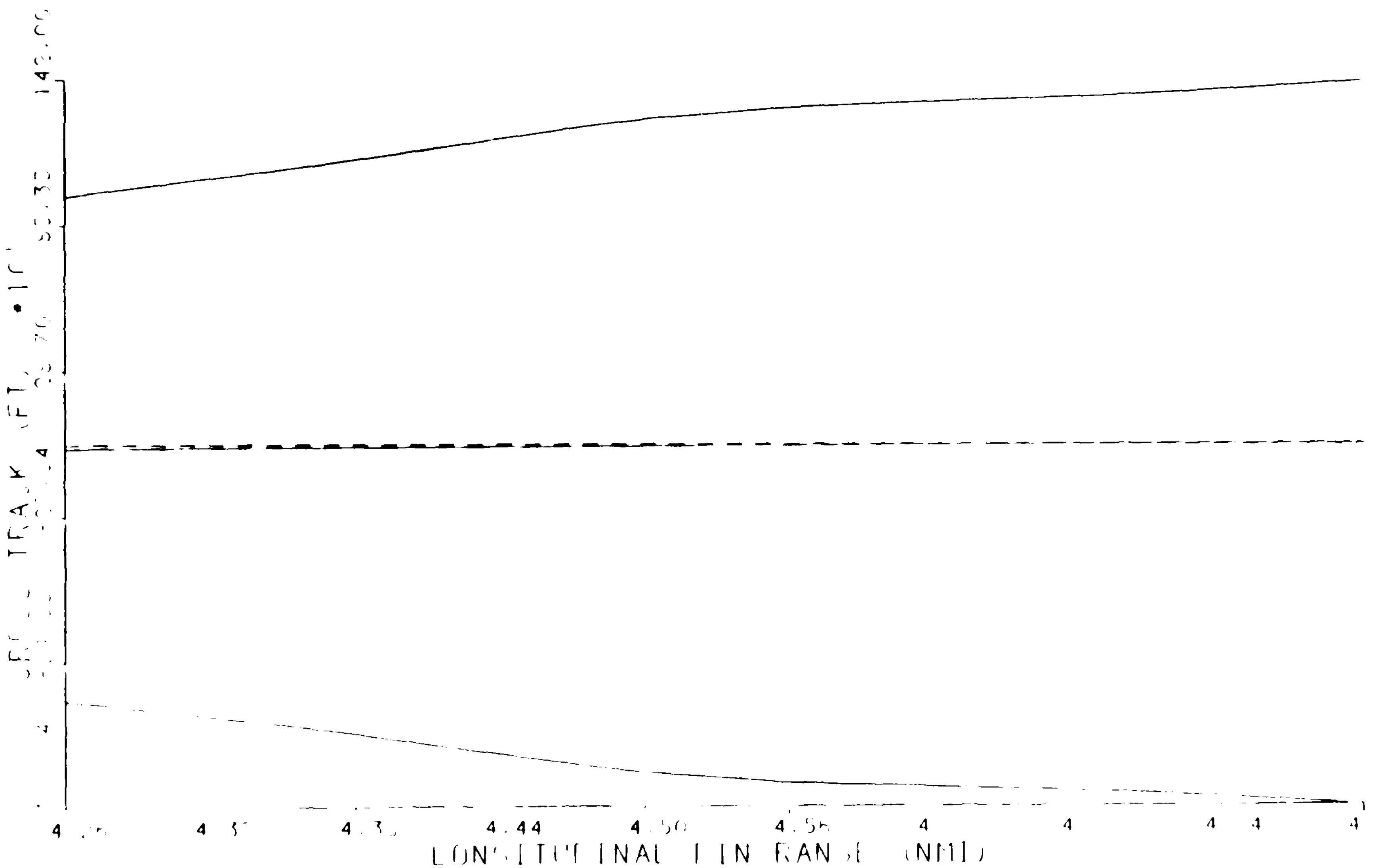
- MEAN
-- MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL PINS
STANDARD STATISTICS
CROSS TRACK (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



C-172 MLS TERP
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL PINS
STANDARD STATISTICS
ALTITUDE (FT)

KEY
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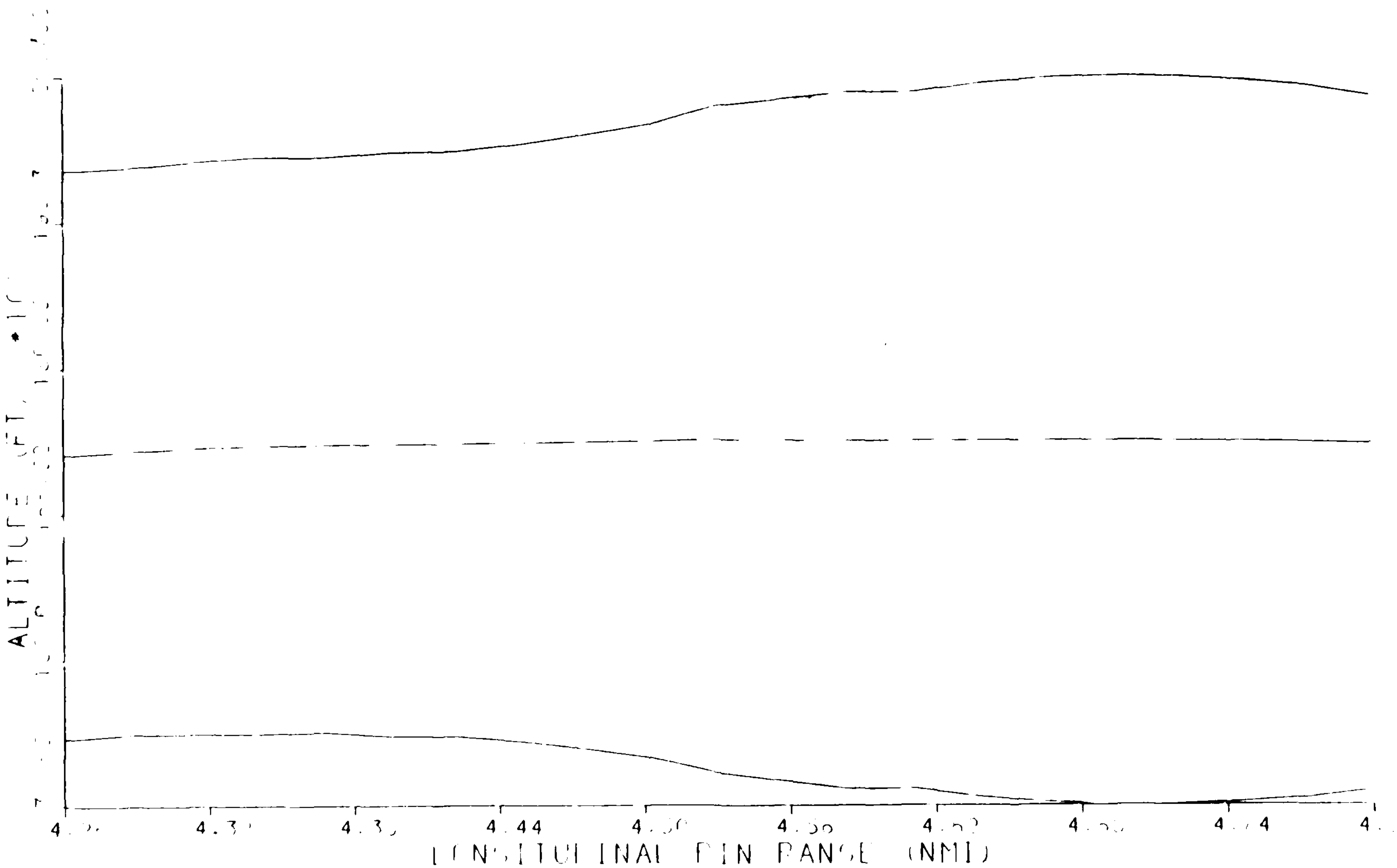
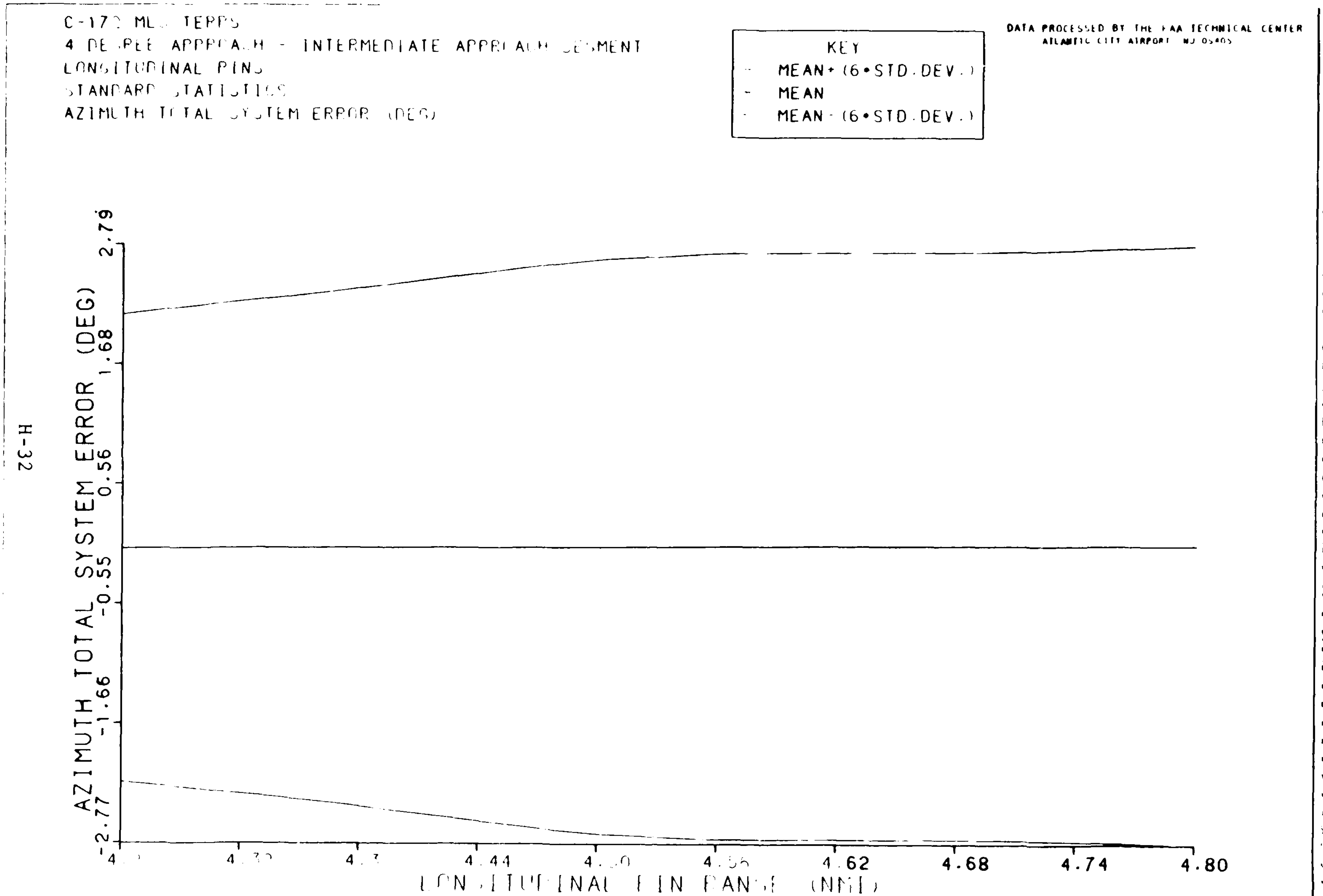
- MEAN-(6•STD.DEV.)

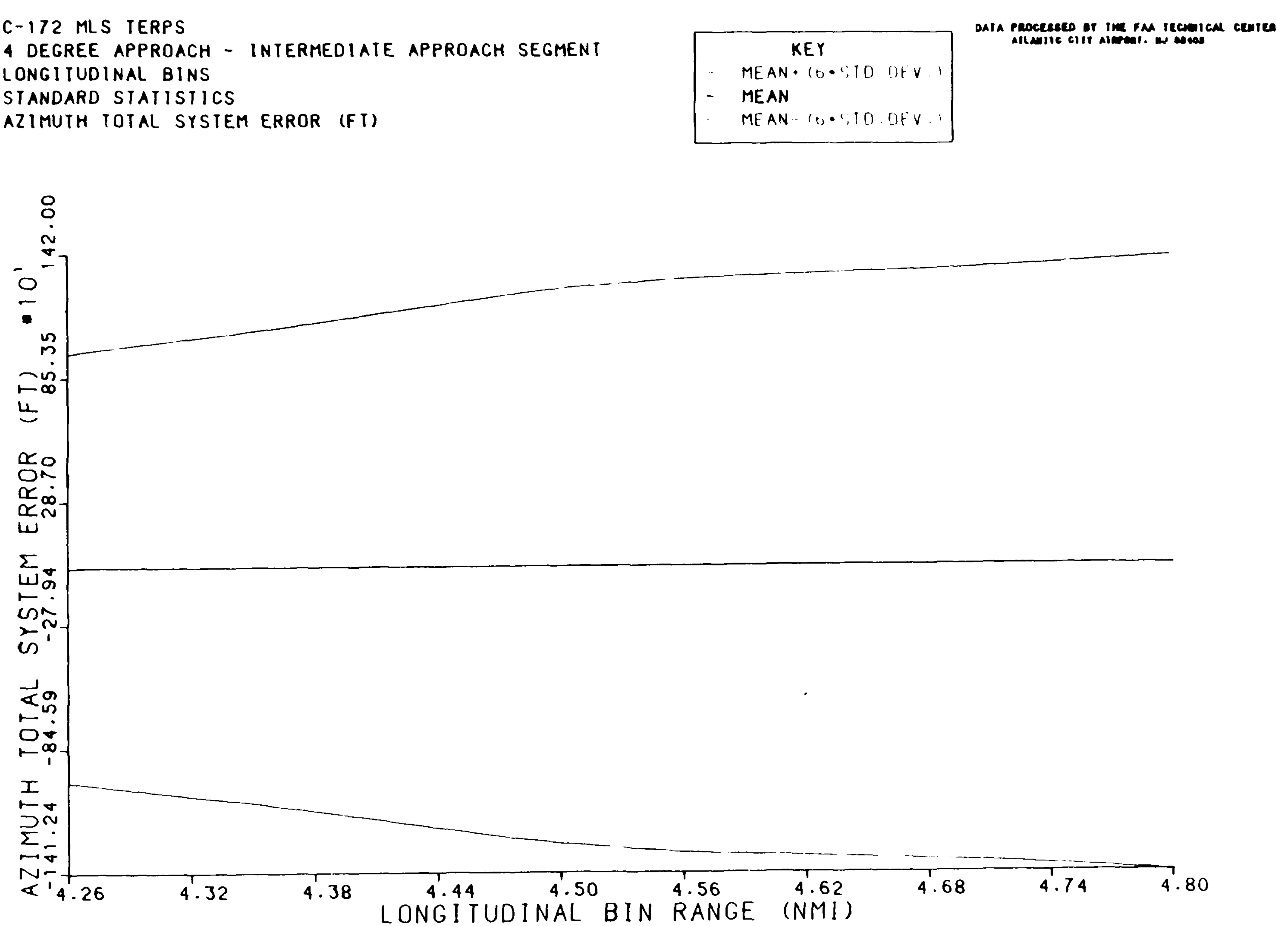
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405





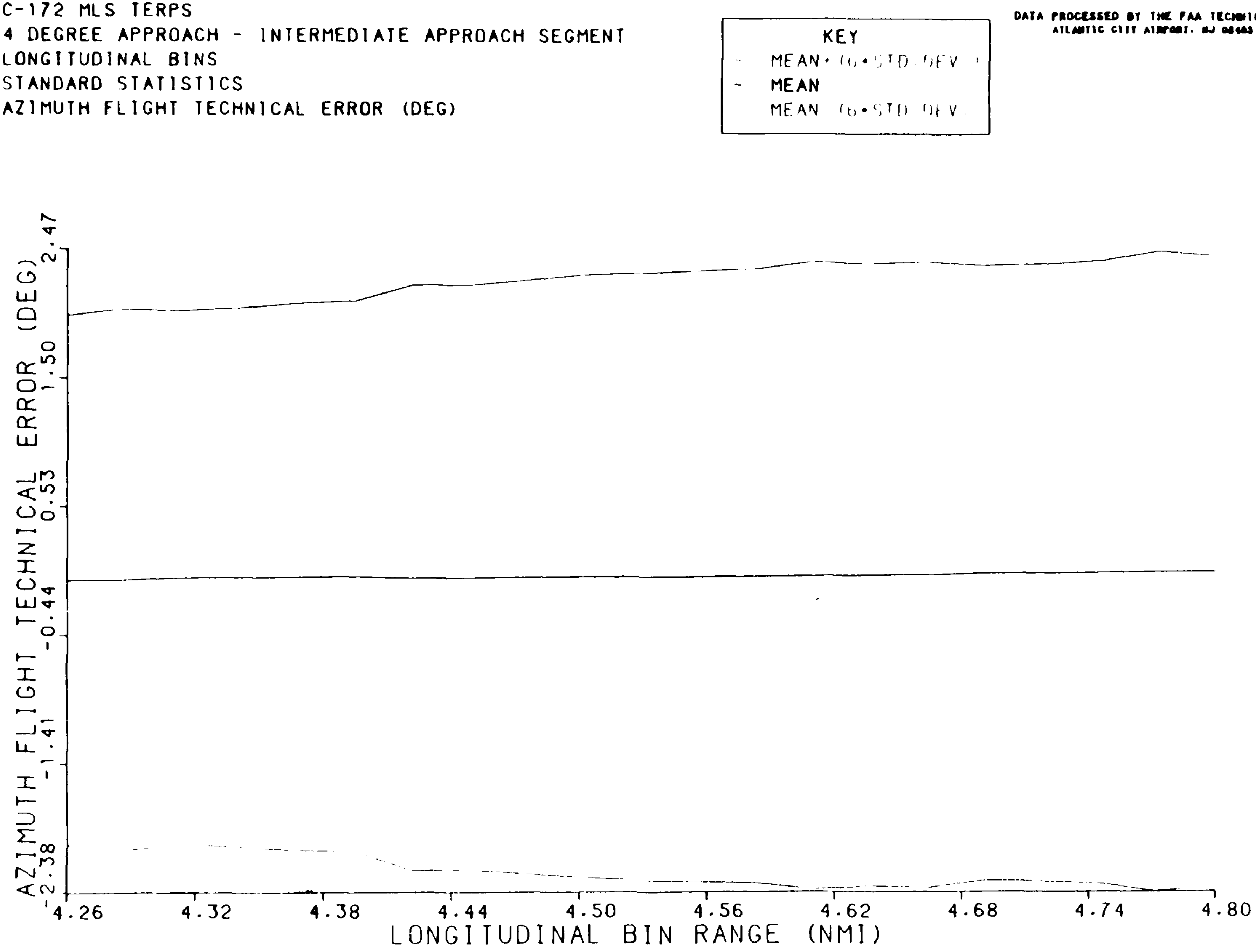
C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL PINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (DEG)
KEY
MEAN+(6•STD.DEV.)
MEAN
MEAN-(6•STD.DEV.)
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405
AZIMUTH TOTAL SYSTEM ERROR (DEG)
2.79
1.68
0.56
-0.55
-1.66
-2.77
4.62
4.68
4.74
4.80
LONGITUDINAL FIN RANGE (NMI)

C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (FT)

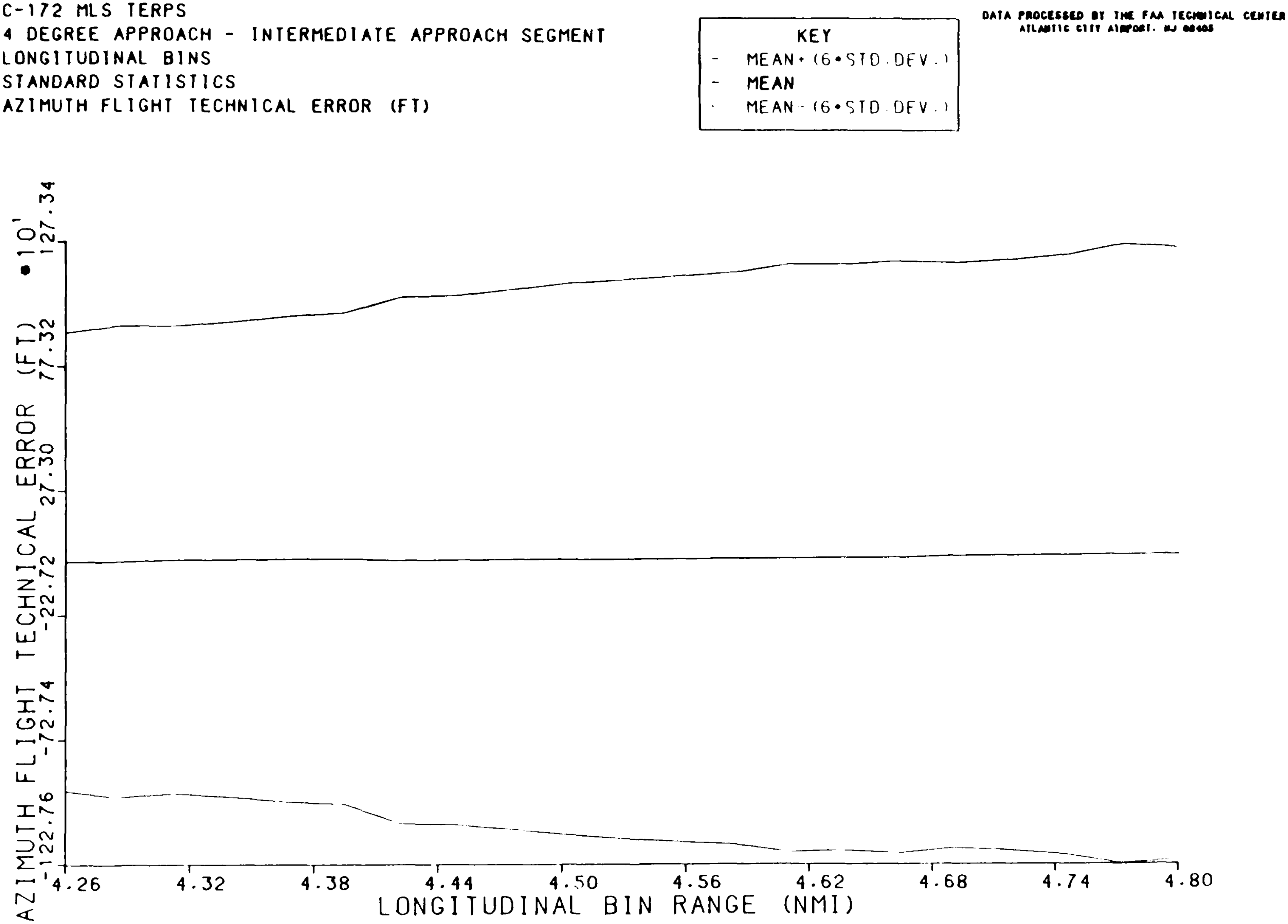


C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (DEG)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

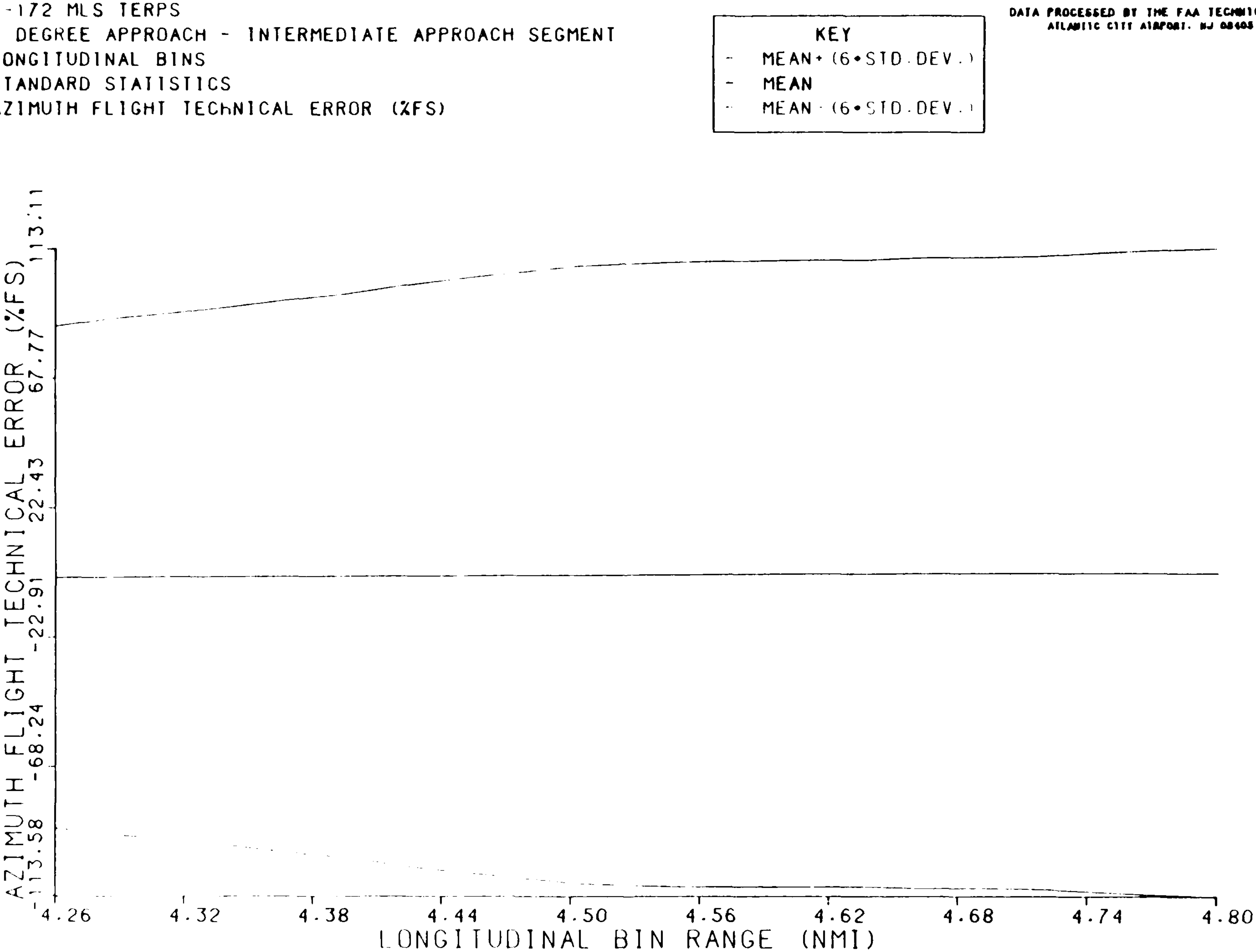


C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (FT)



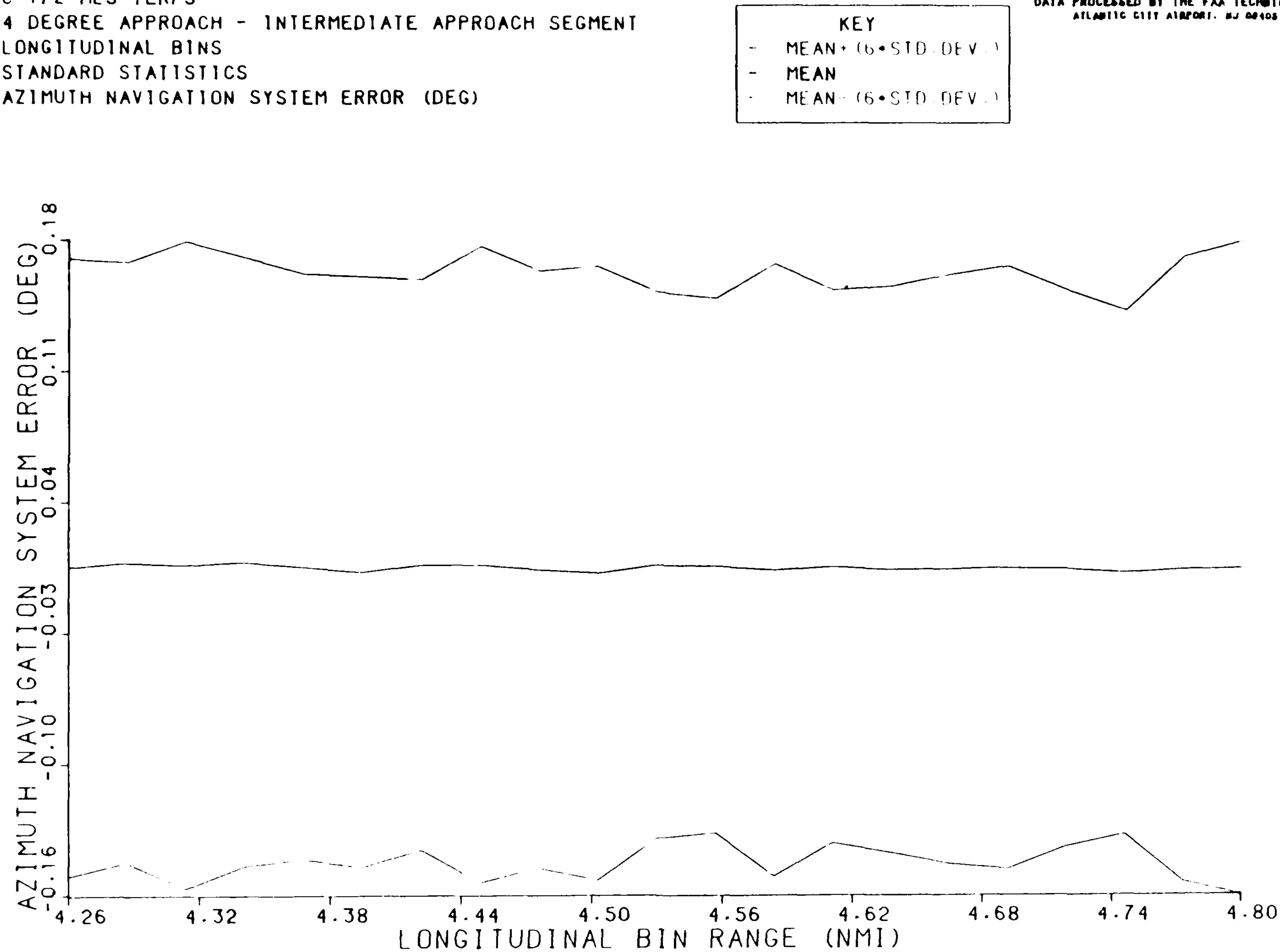
C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (%FS)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

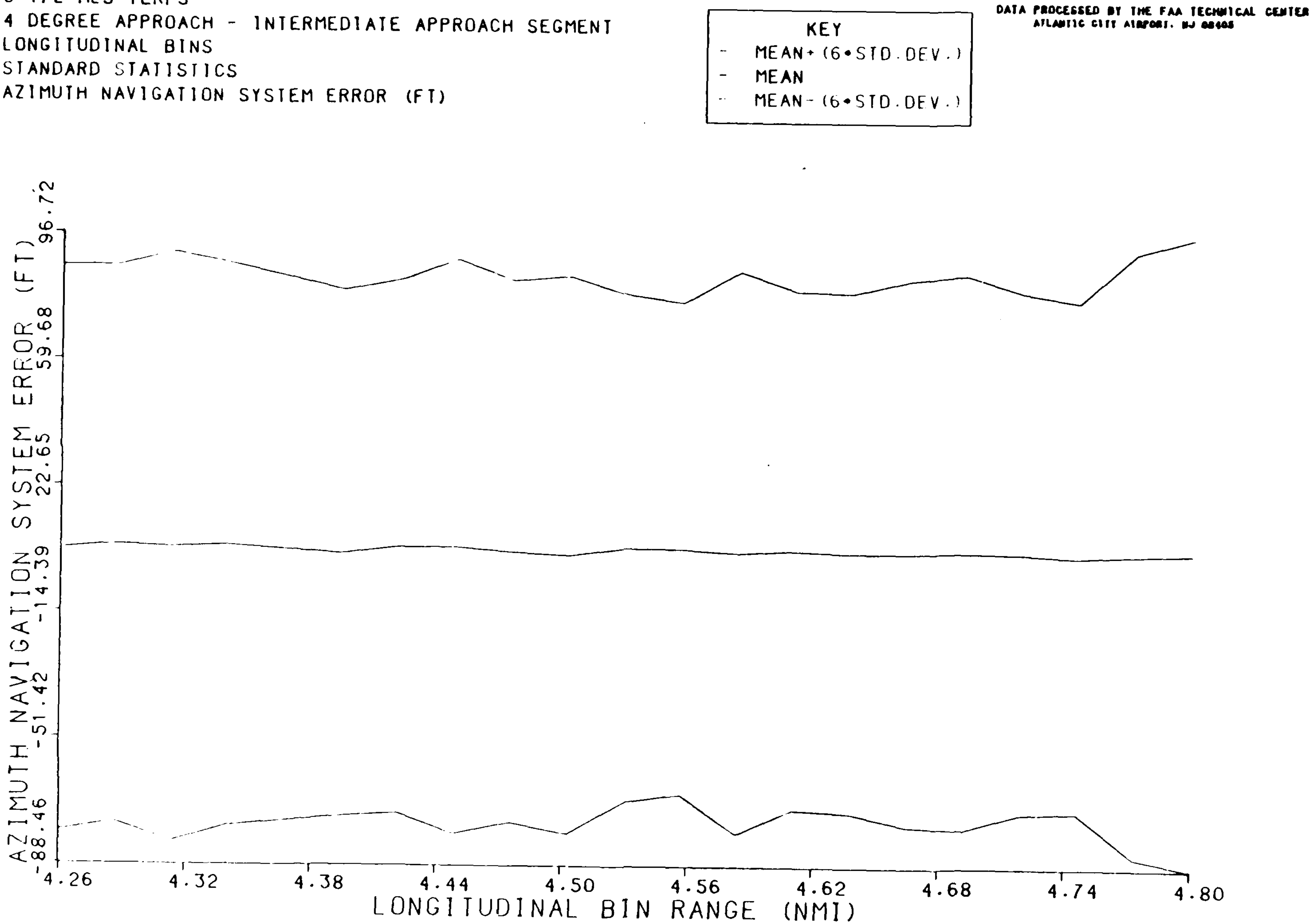


C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (DEG)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (FT)



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

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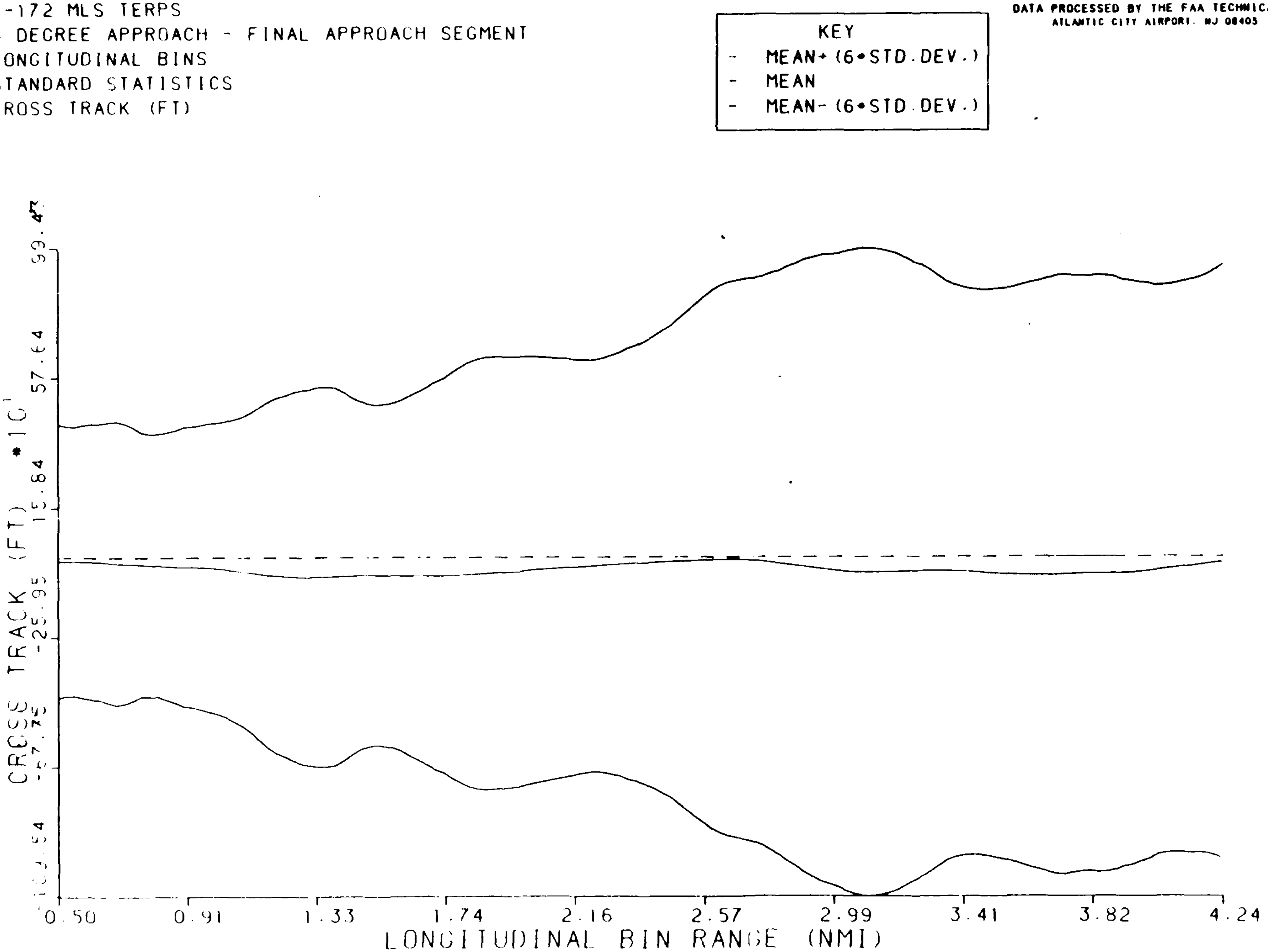
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ALTITUDE (FT)

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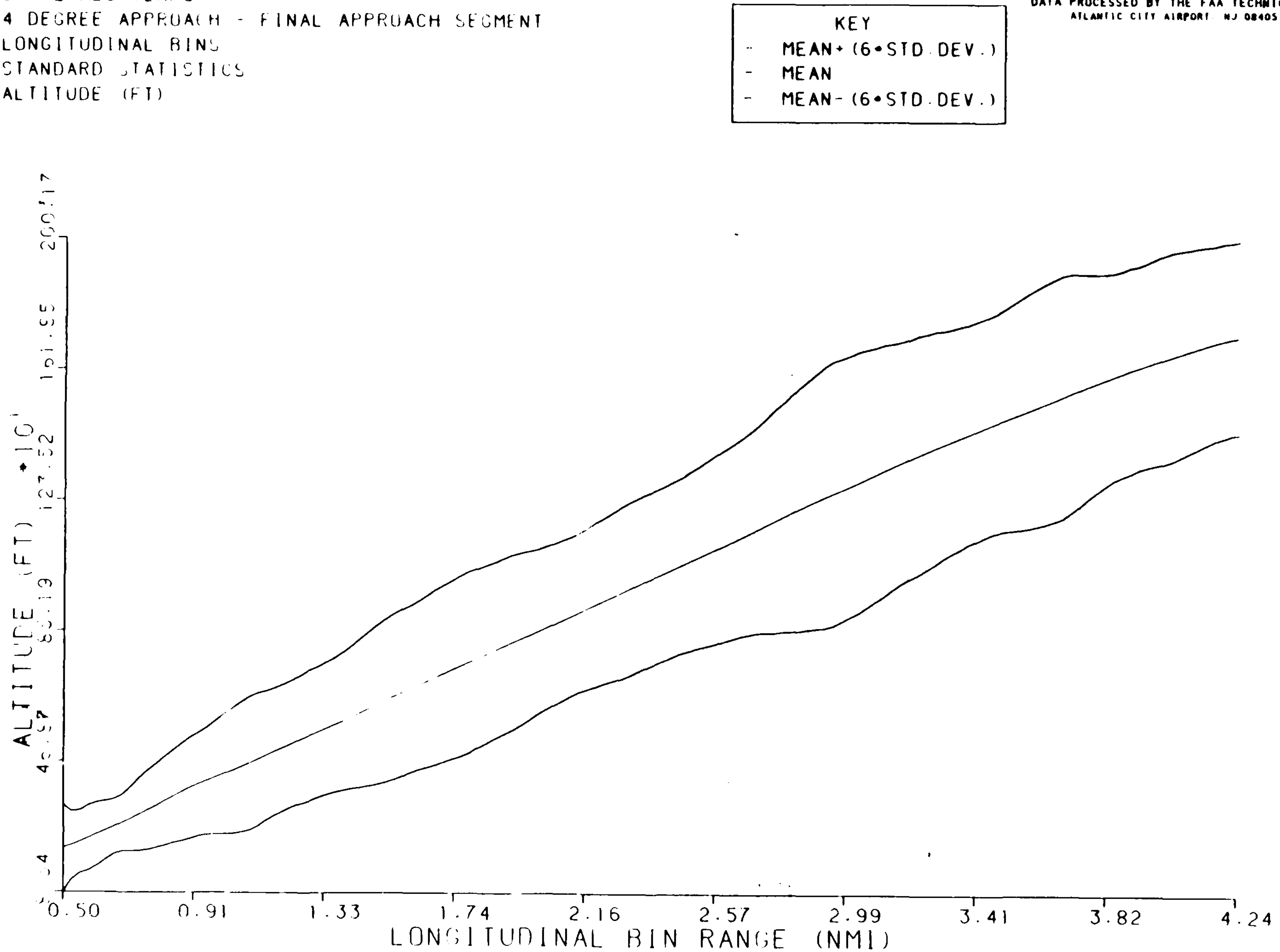
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (DEG)

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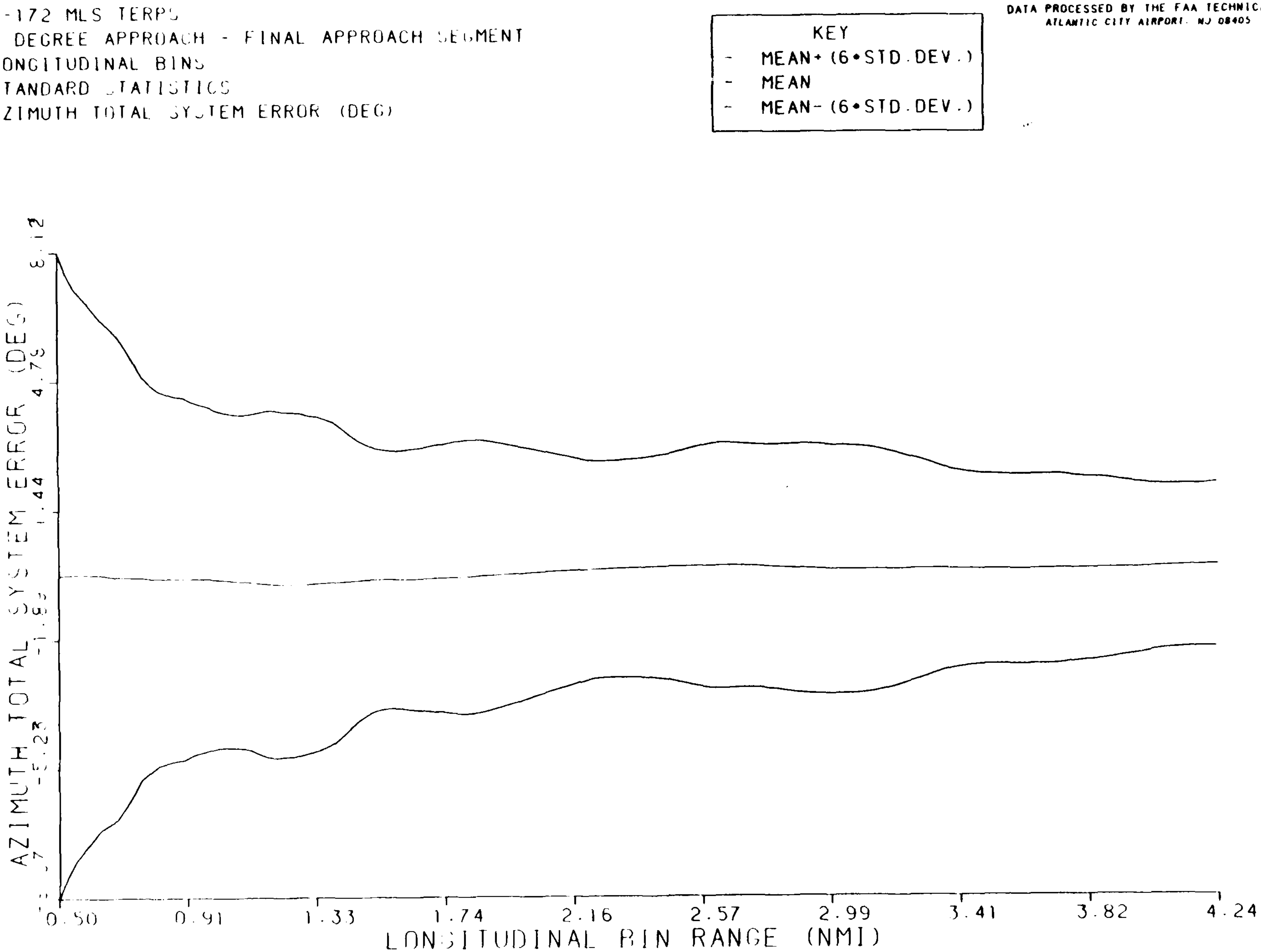
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (FT)

KEY
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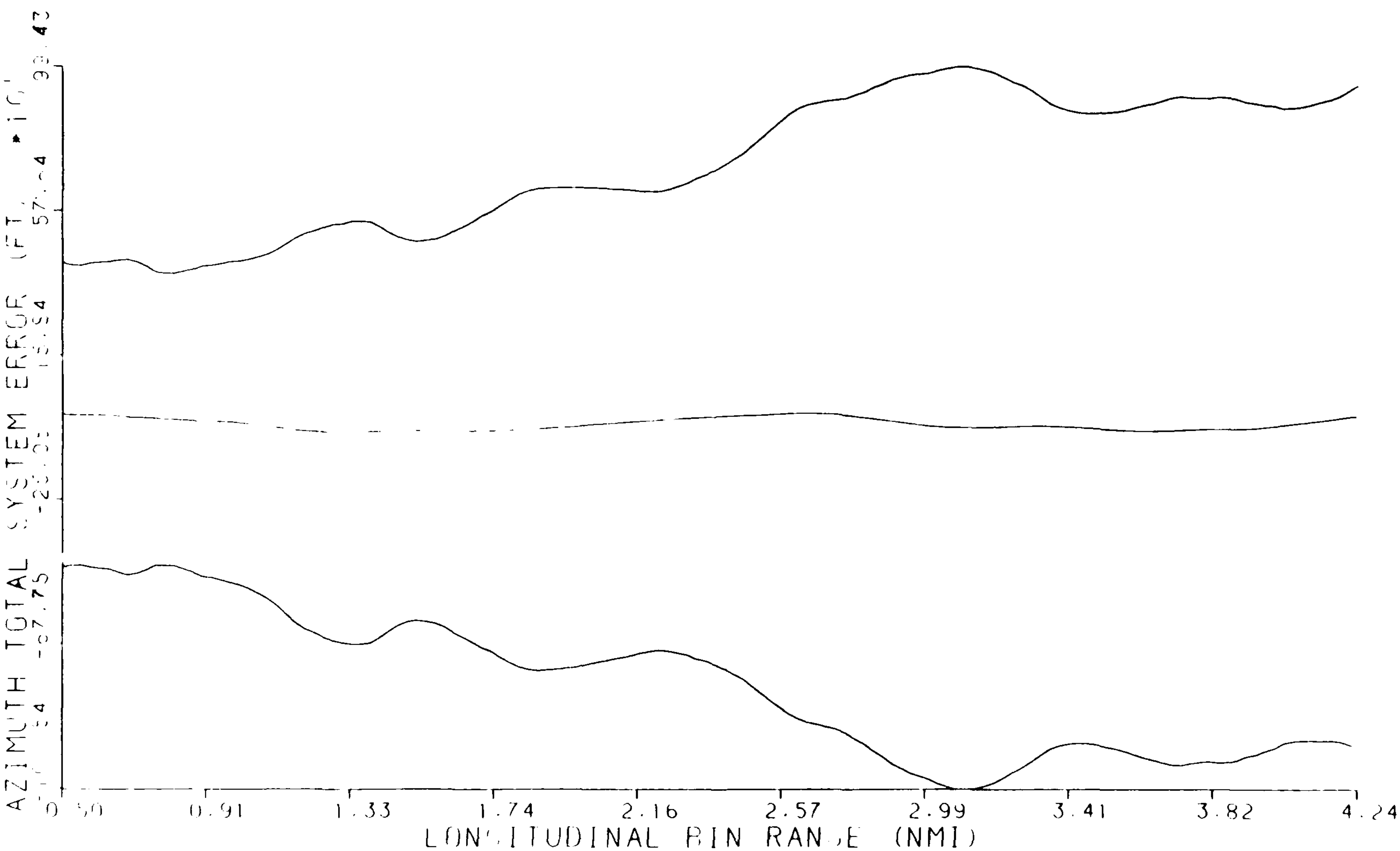
- MEAN
- MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (DEG)

KEY
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- MEAN-(6•STD.DEV.)

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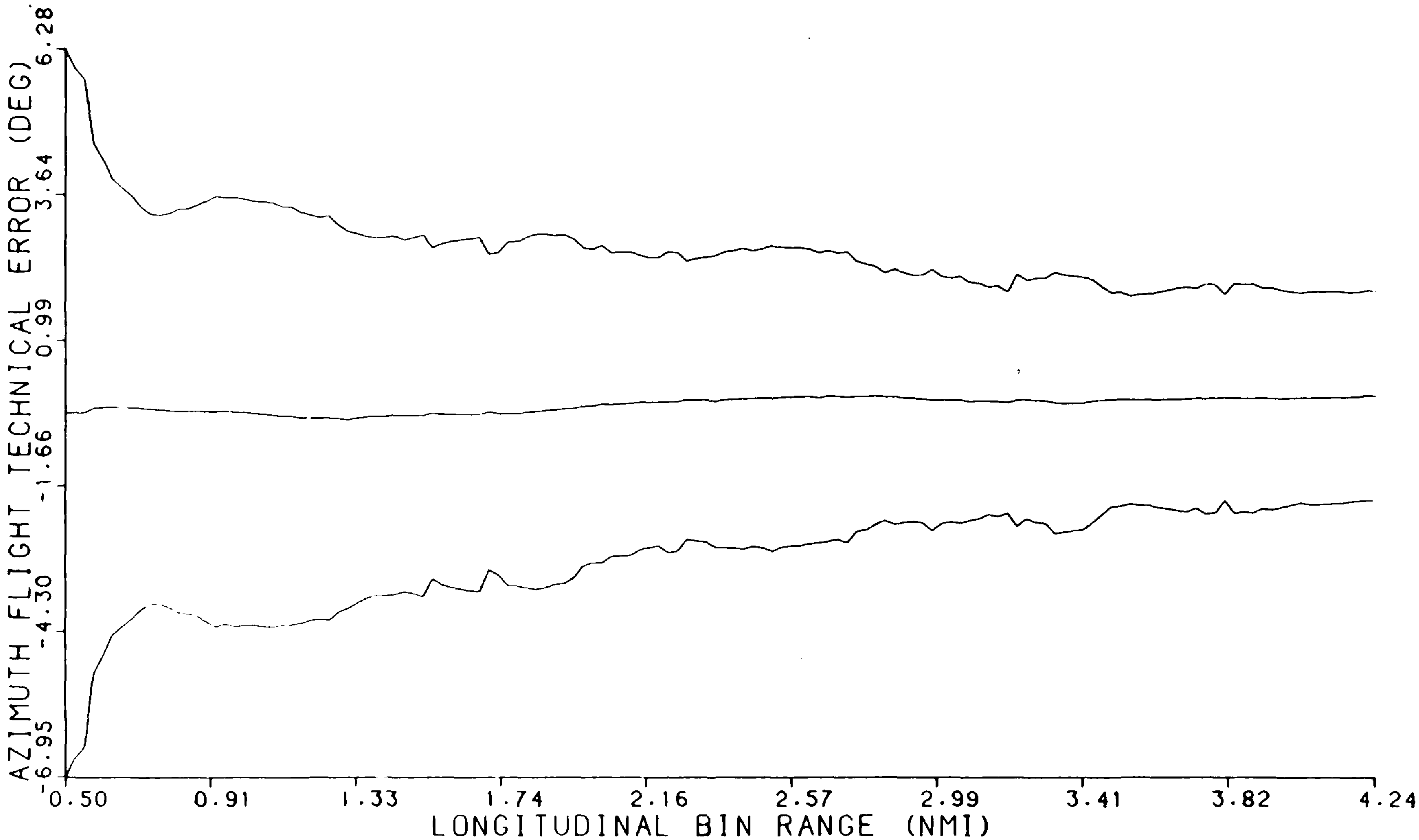
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (FT)

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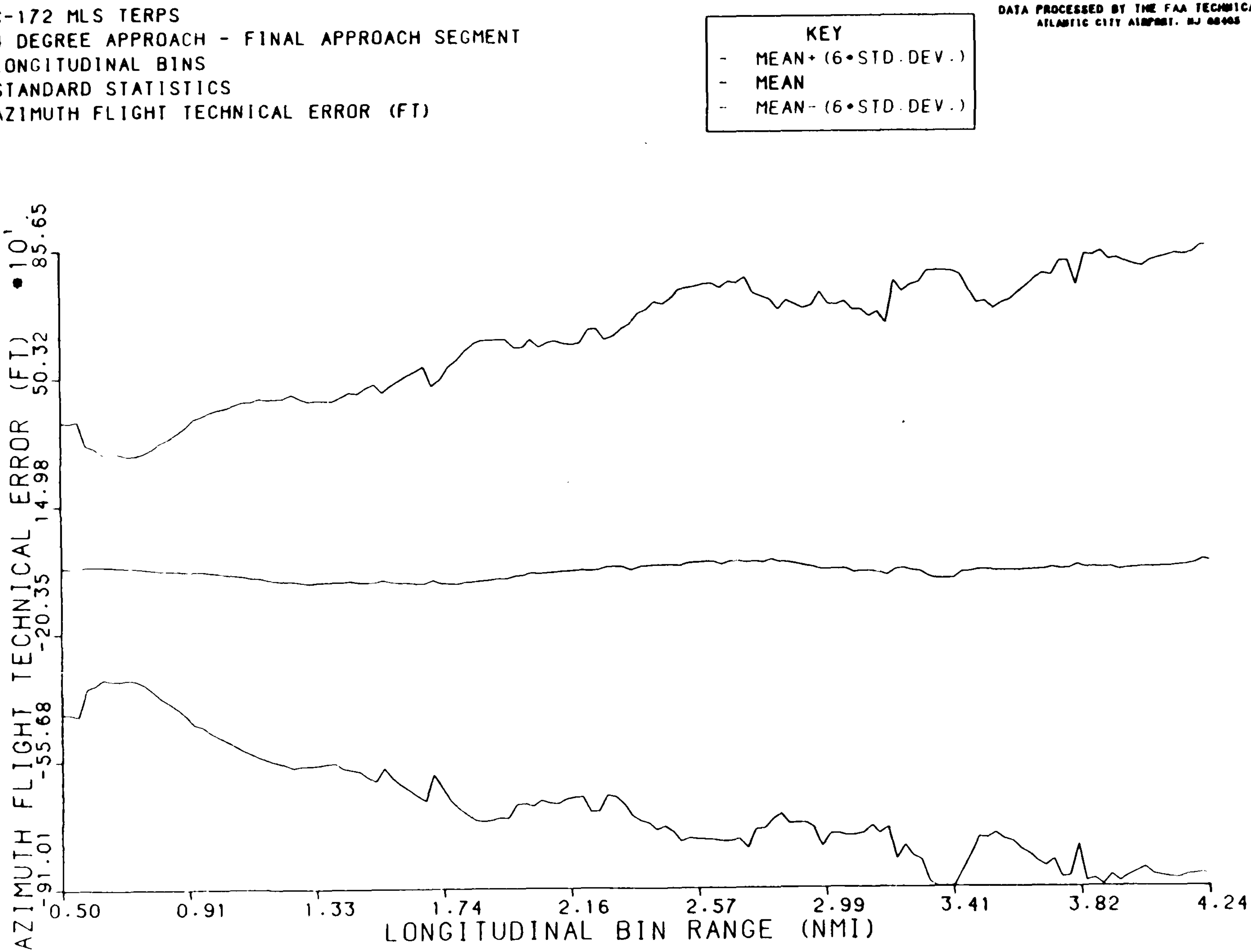
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (%FS)

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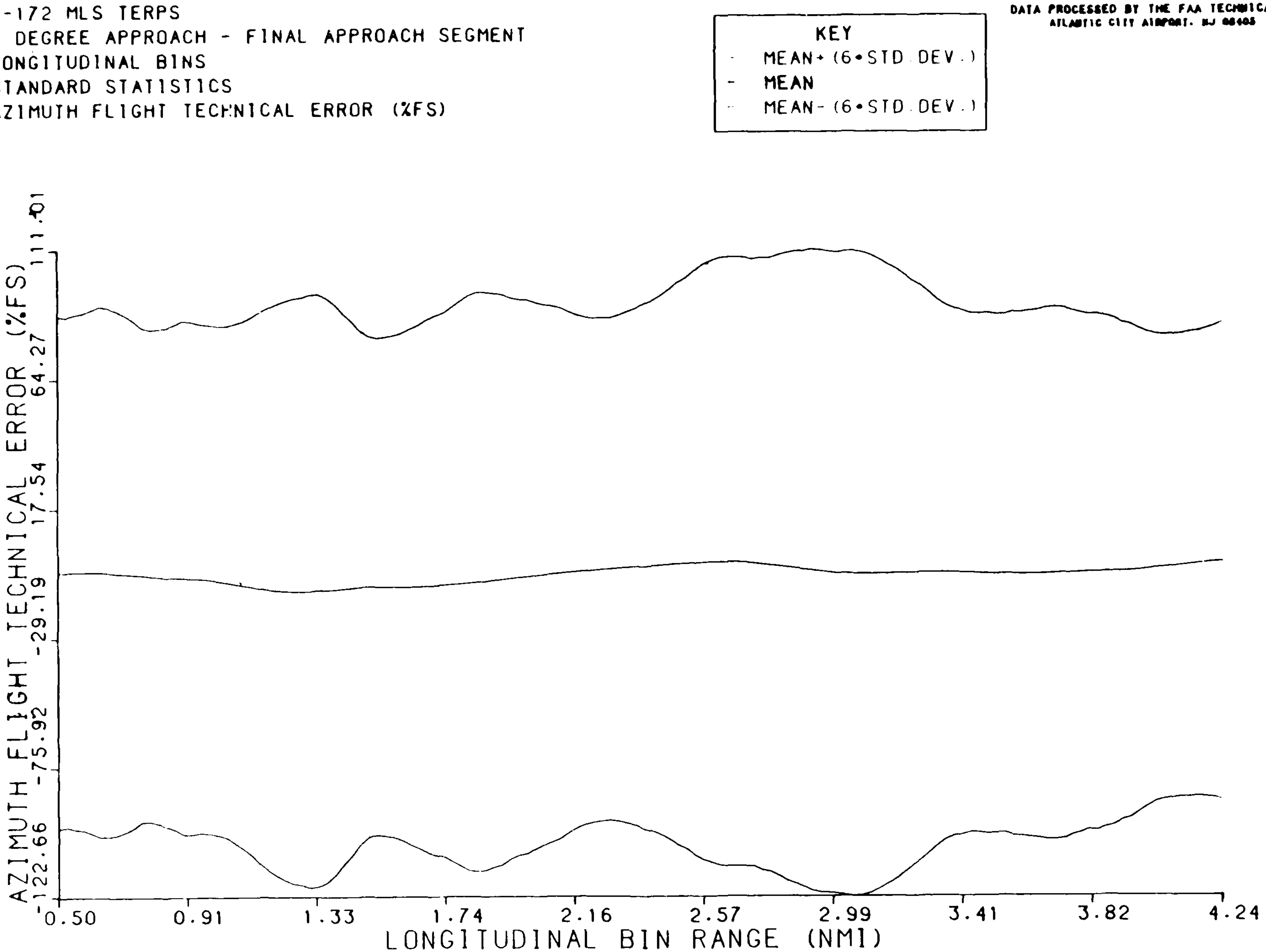
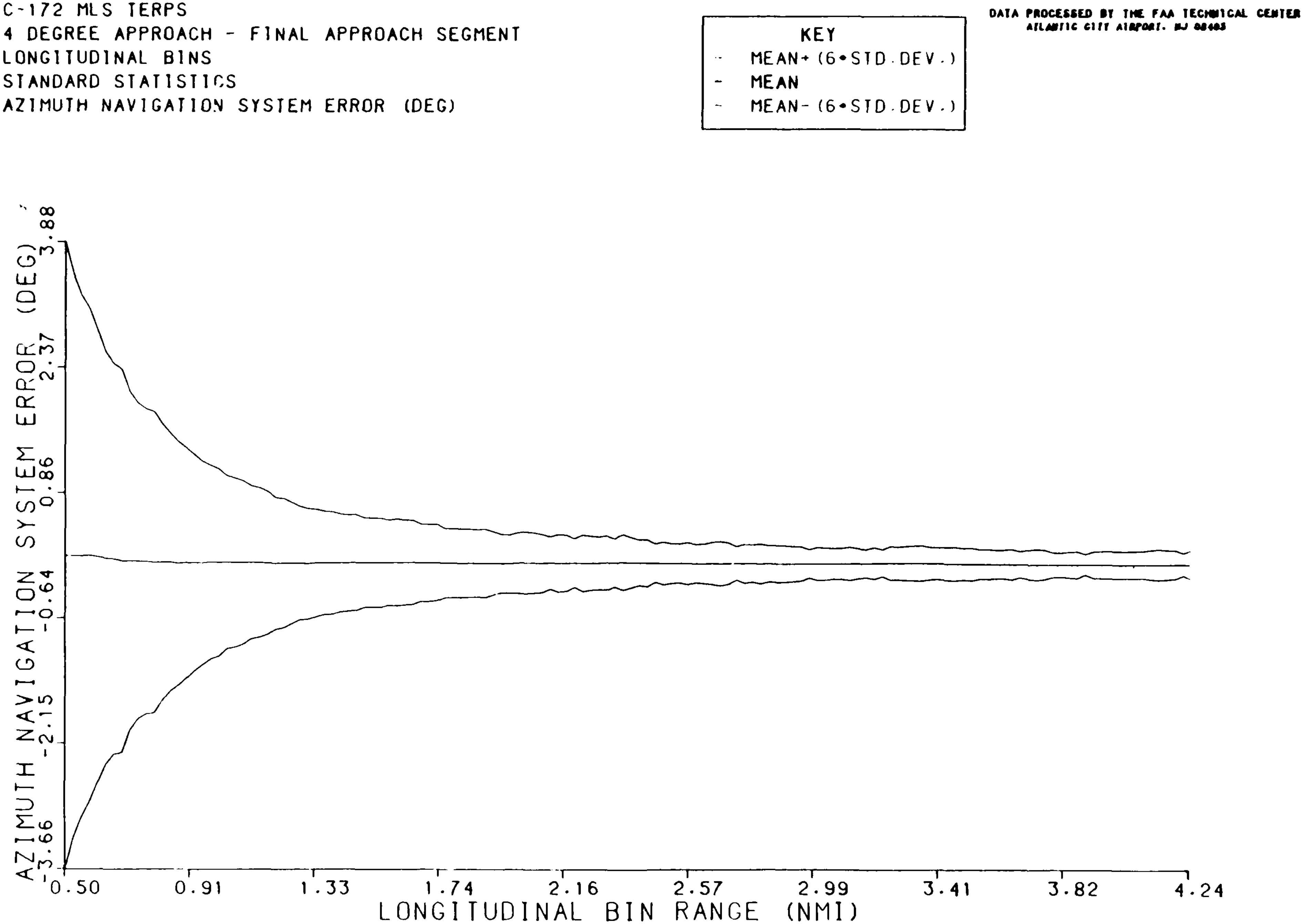
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (DEG)



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (FT)

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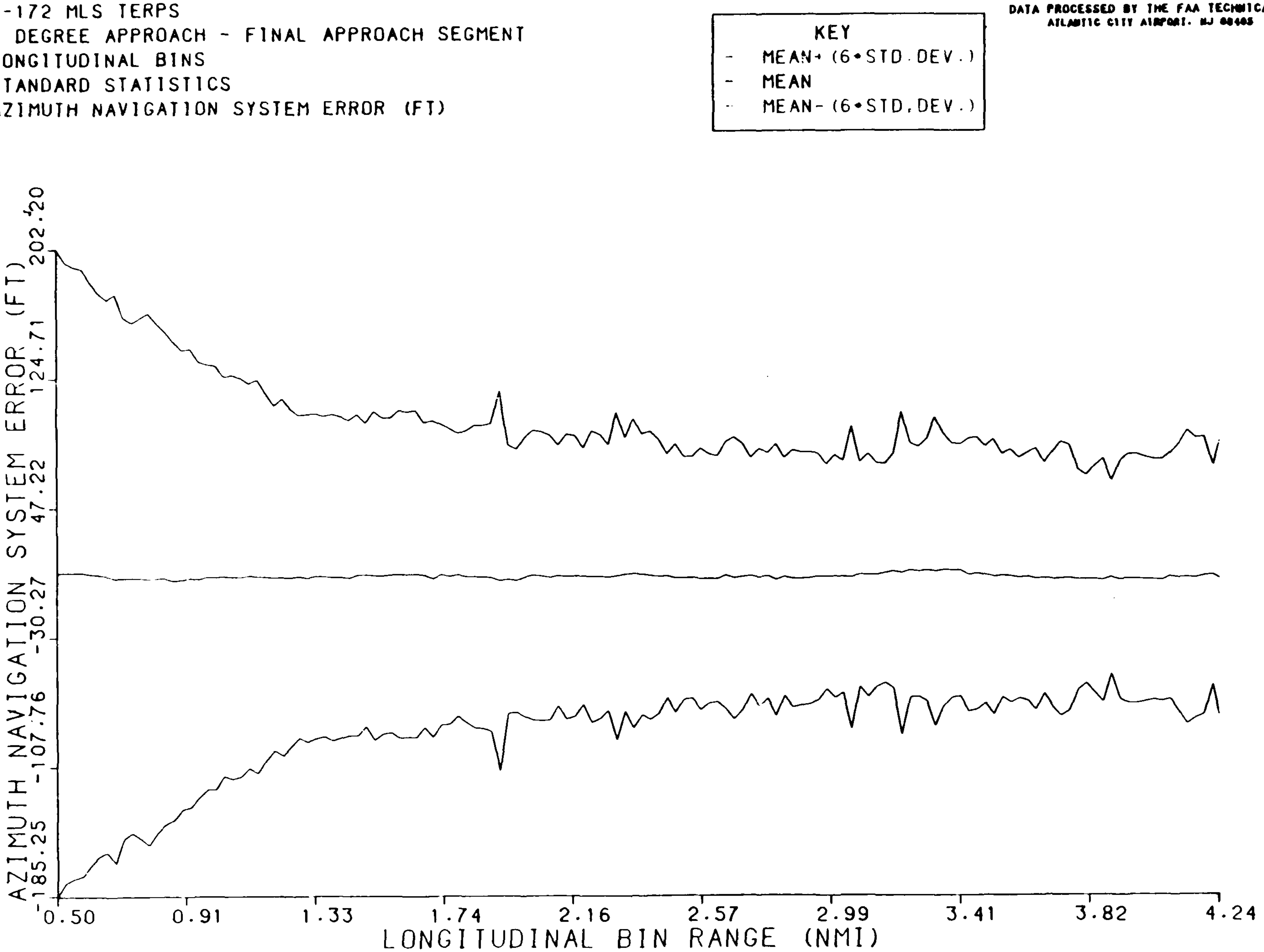
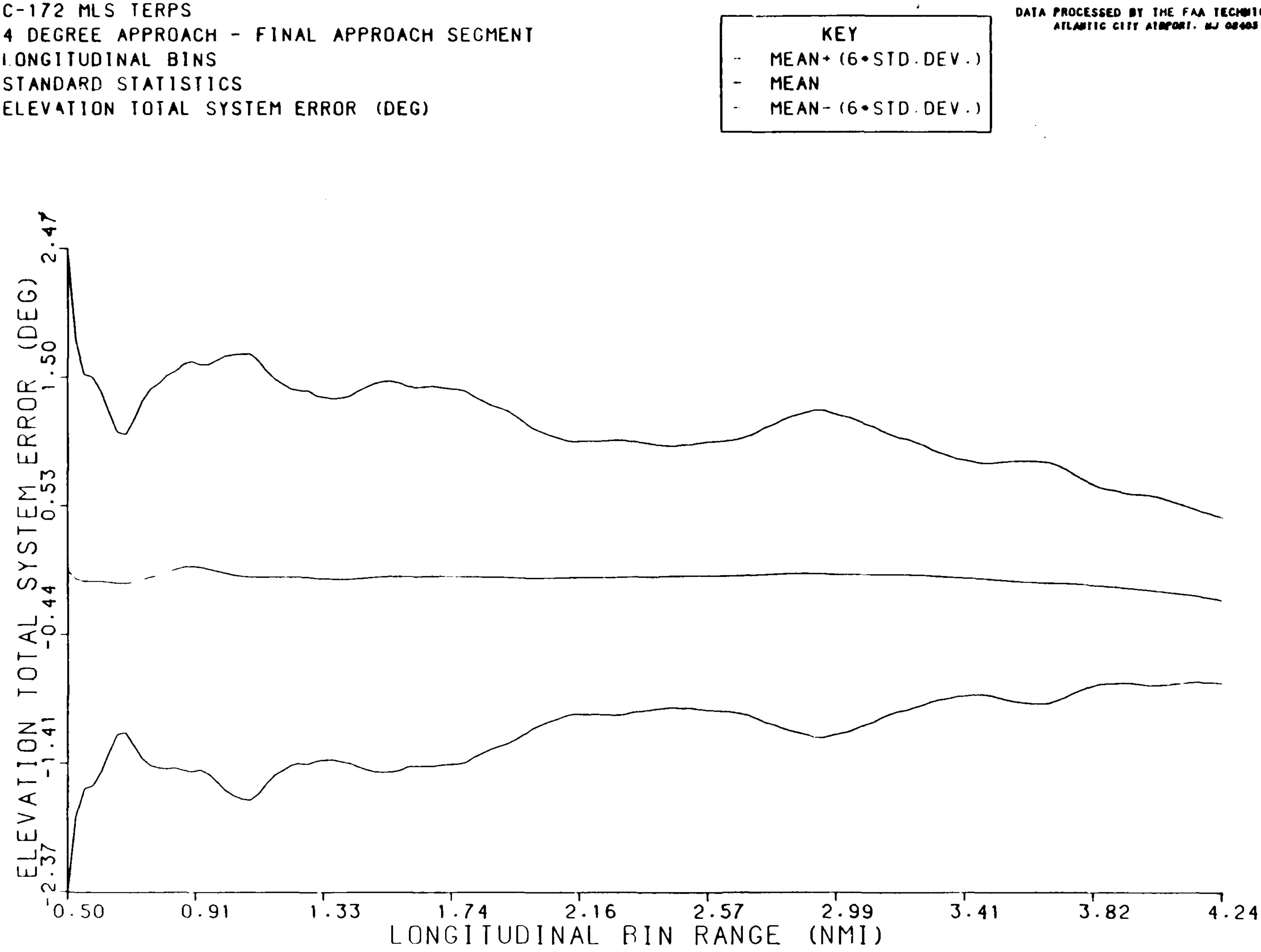
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION TOTAL SYSTEM ERROR (DEG)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION TOTAL SYSTEM ERROR (FT)

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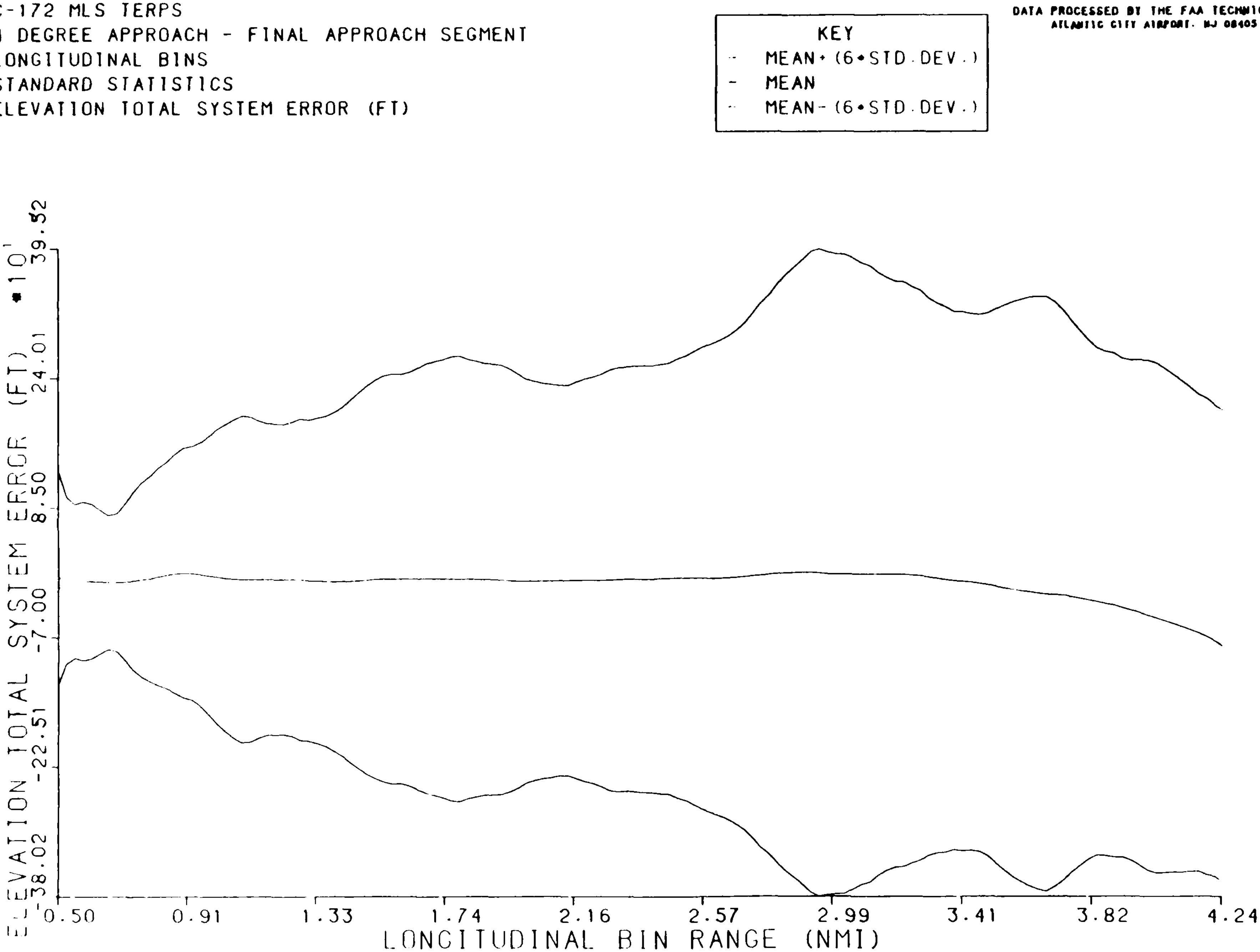
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (DEG)

KEY
MEAN+(6•STD.DEV.)
MEAN
MEAN-(6•STD.DEV.)

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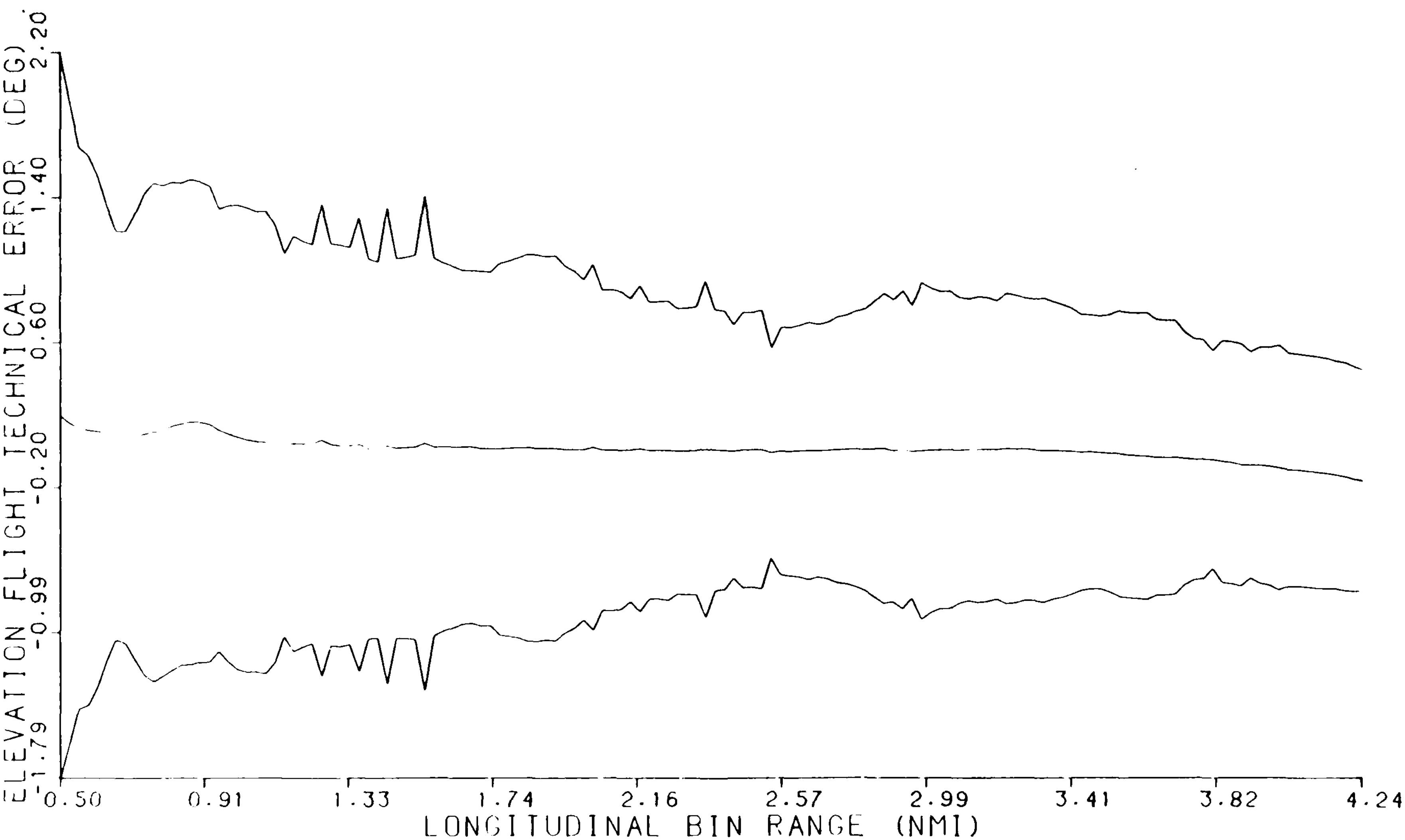
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (FT)

KEY
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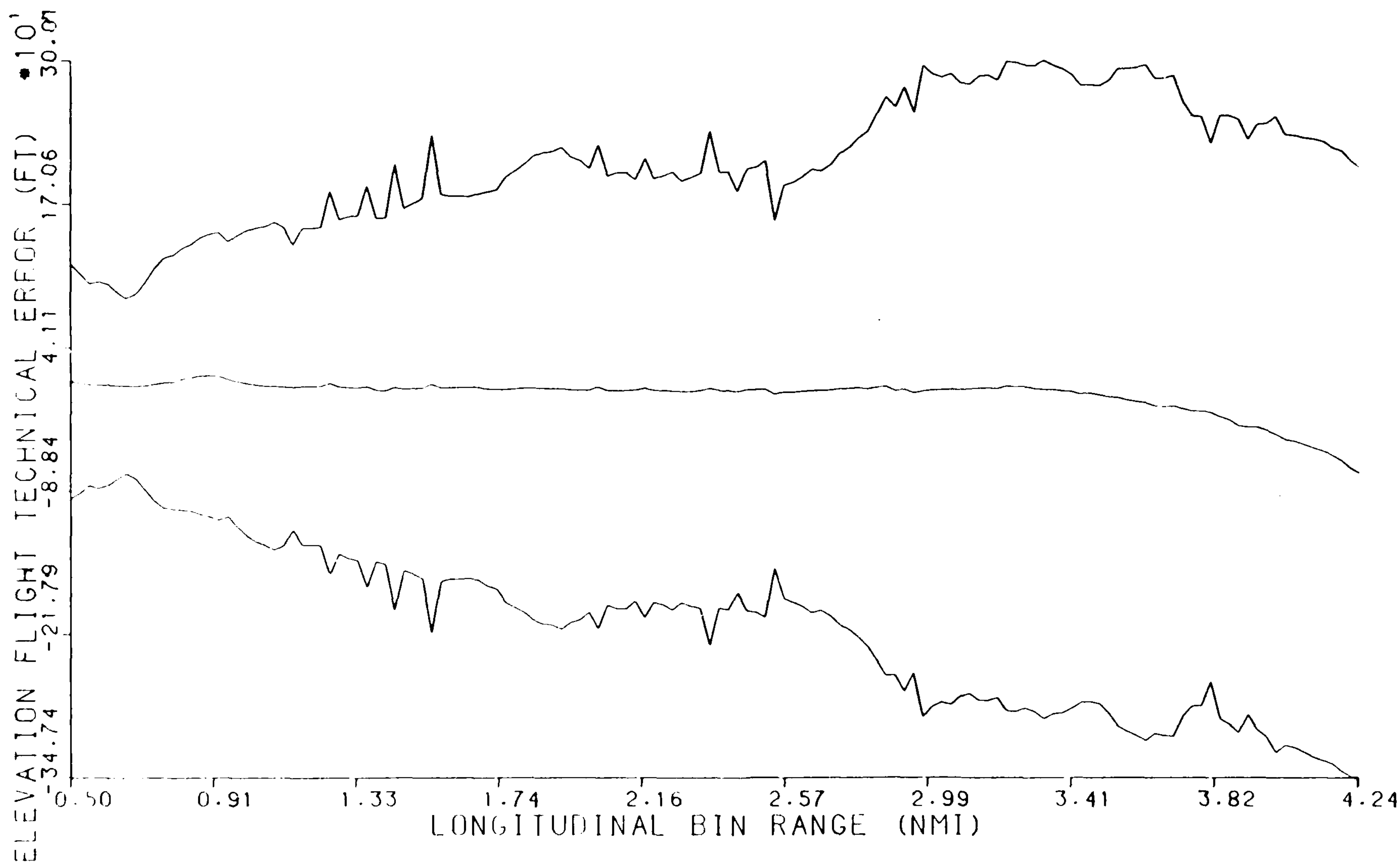
- MEAN
- MEAN-(6*STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (%FS)

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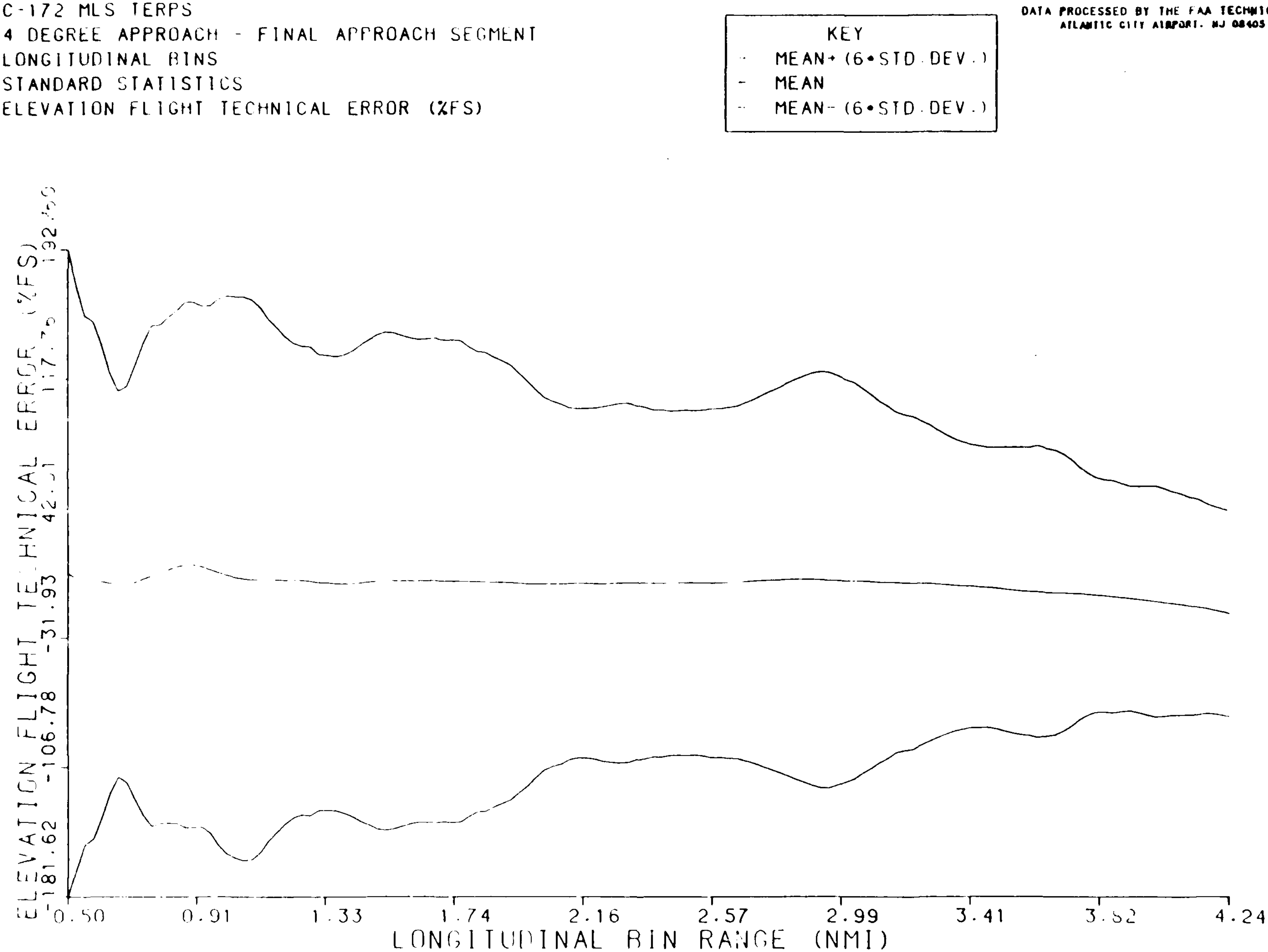
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION NAVIGATION SYSTEM ERROR (DEG)

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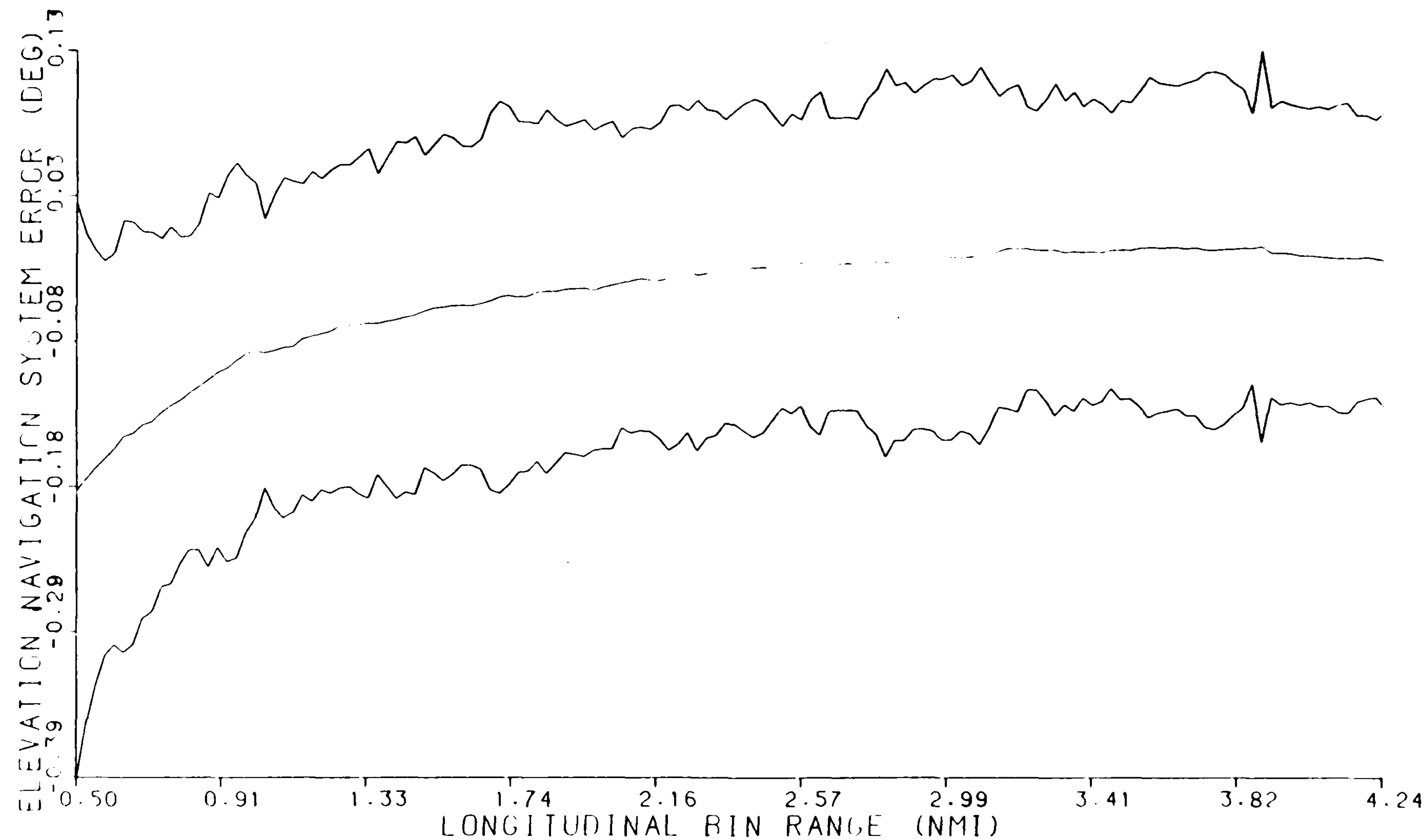
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION NAVIGATION SYSTEM ERROR (FT)

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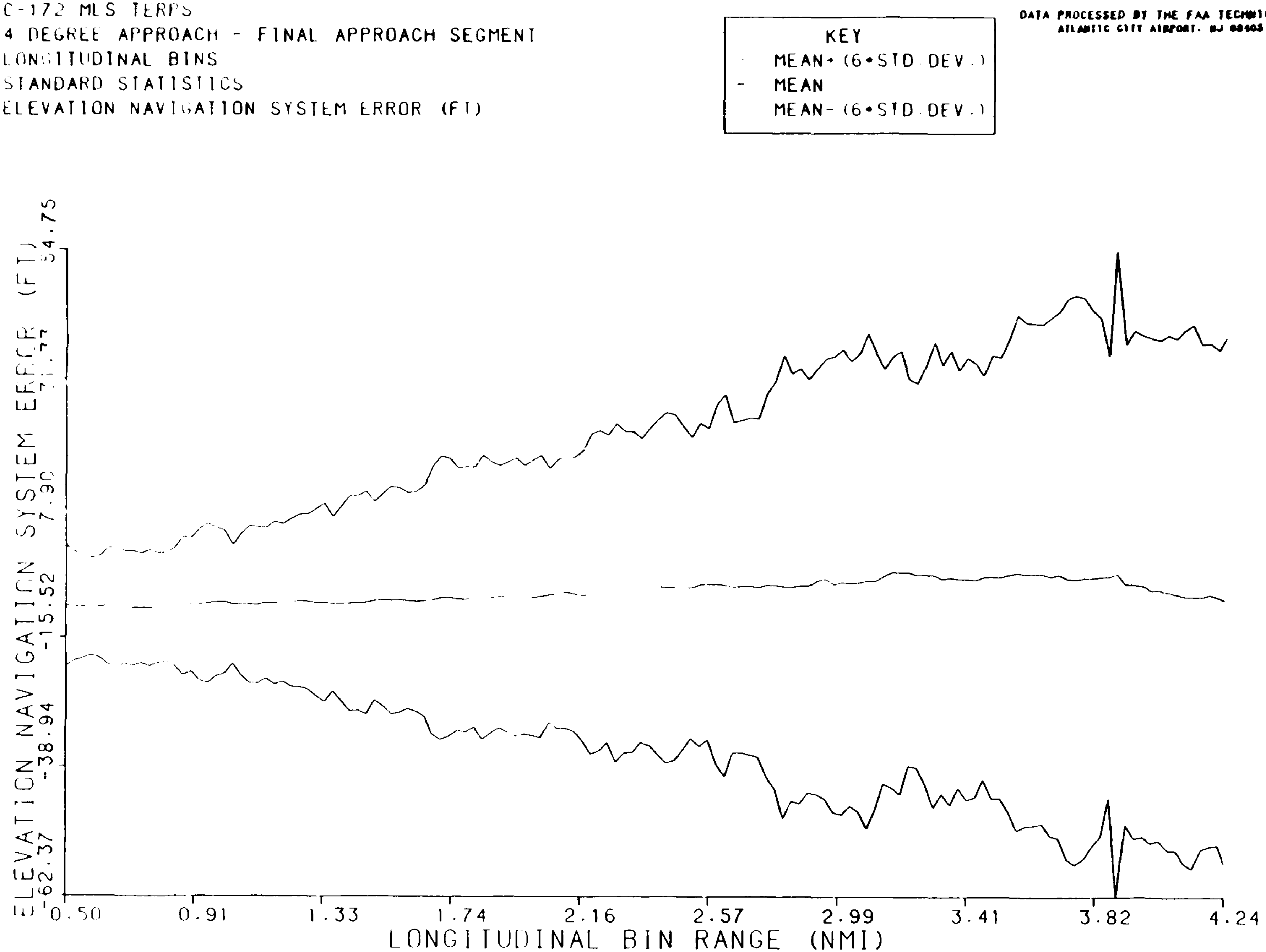
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - MISSED APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

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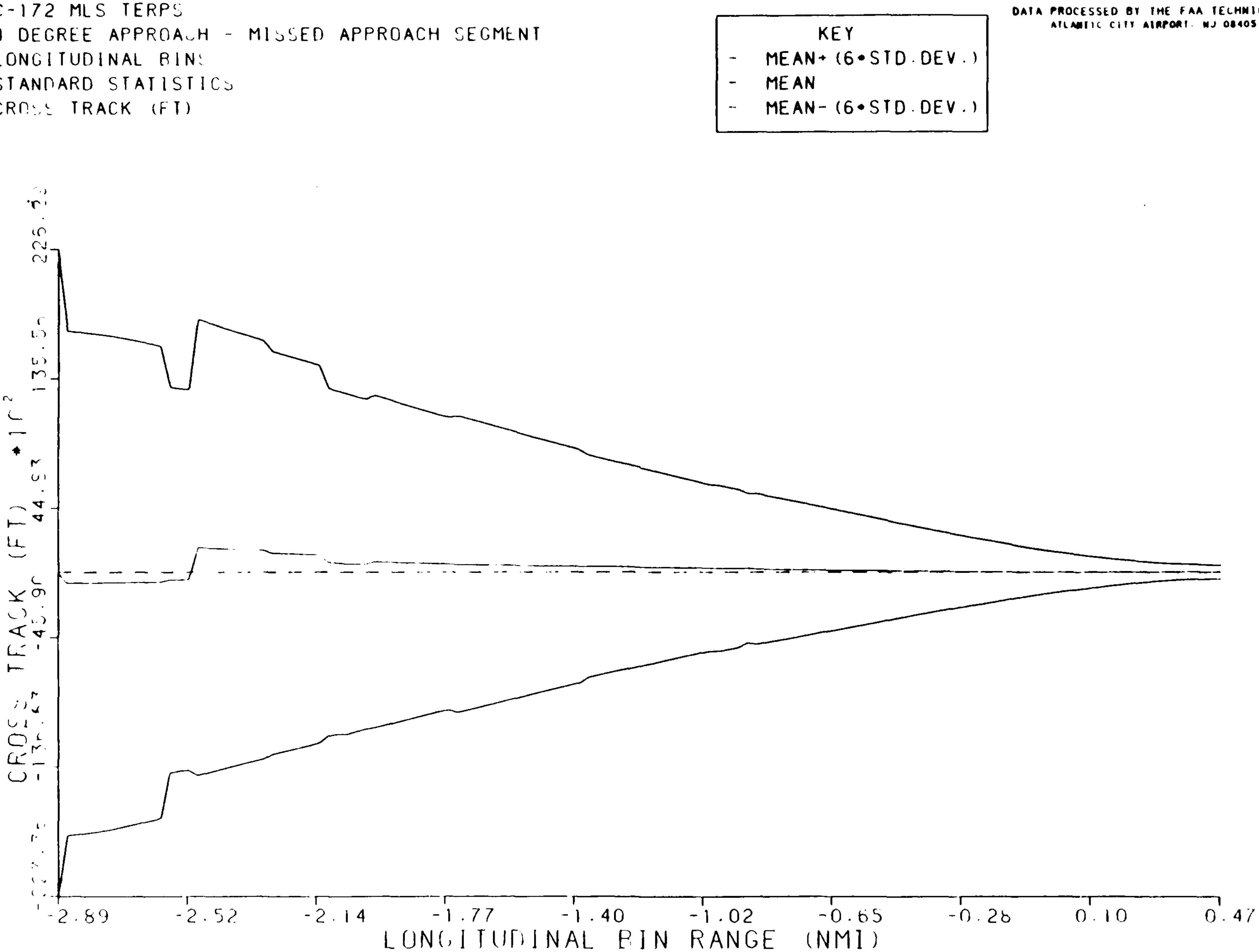
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - MISSED APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ALTITUDE (FT)

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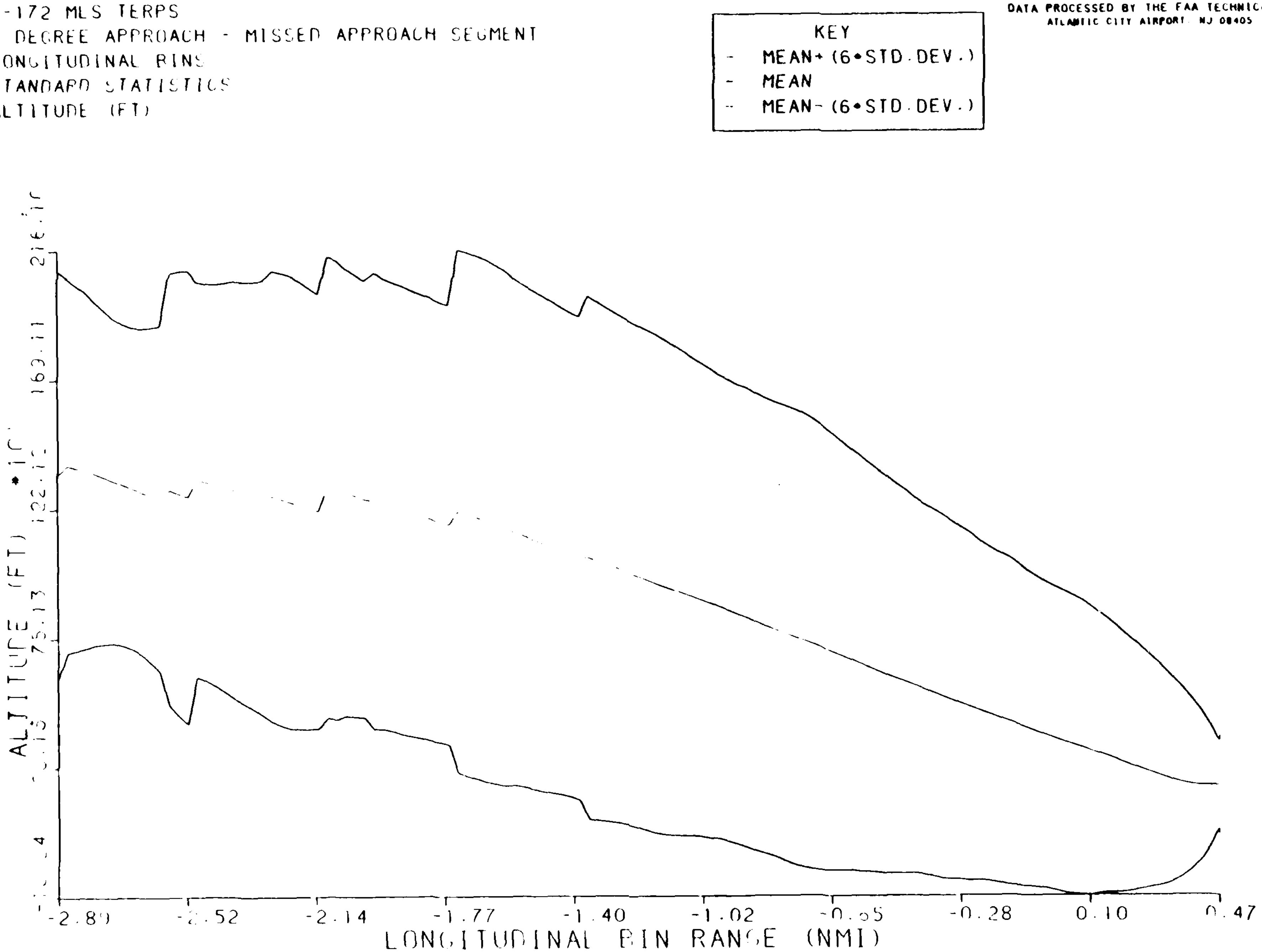
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - MISSED APPROACH SEGMENT
VERTICAL BINS
STANDARD STATISTICS
ALONG TRACK (FT)

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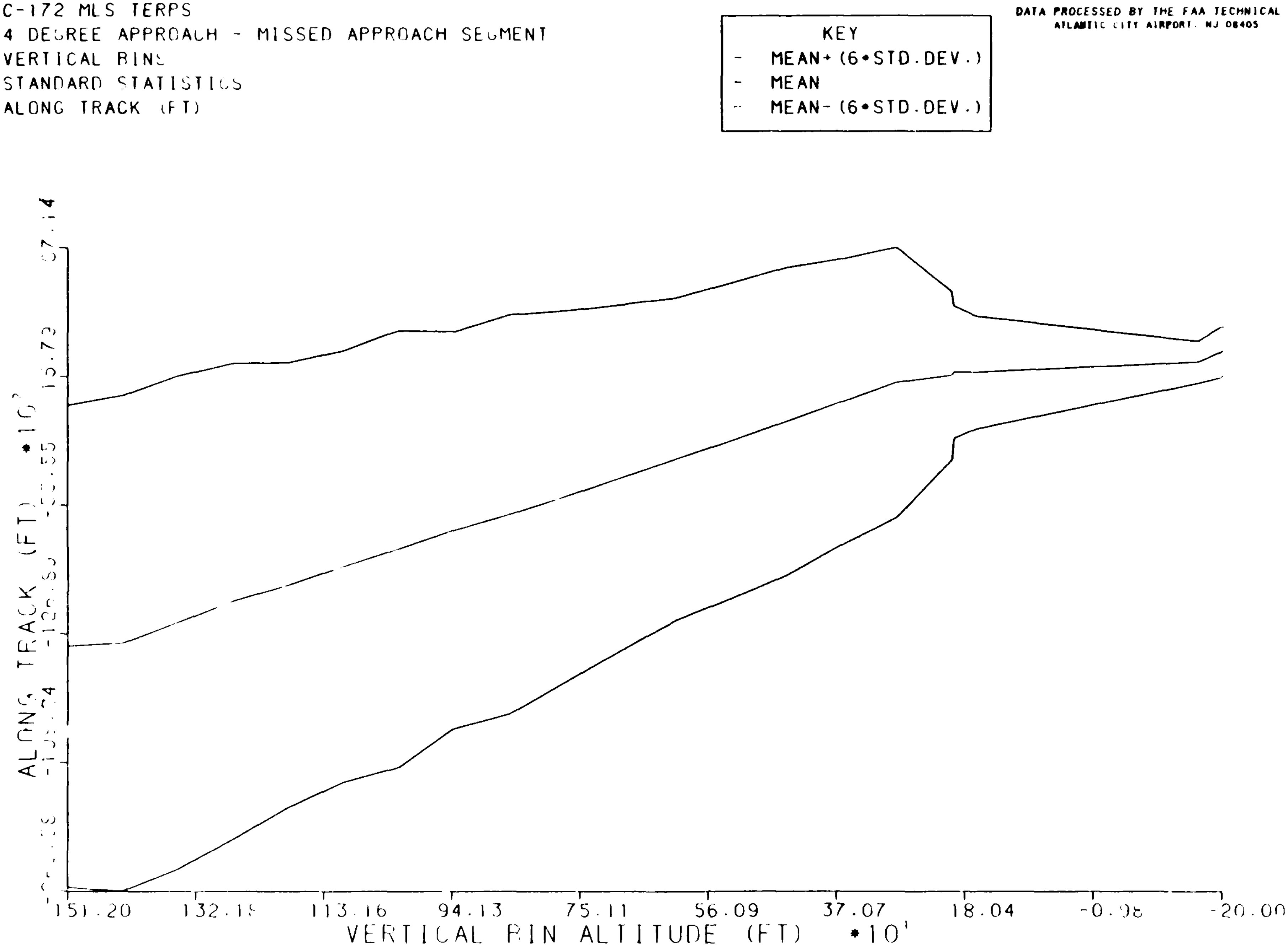
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - MISSED APPROACH SEGMENT
VERTICAL BIN
STANDARD STATISTICS
CROSS TRACK (FT)

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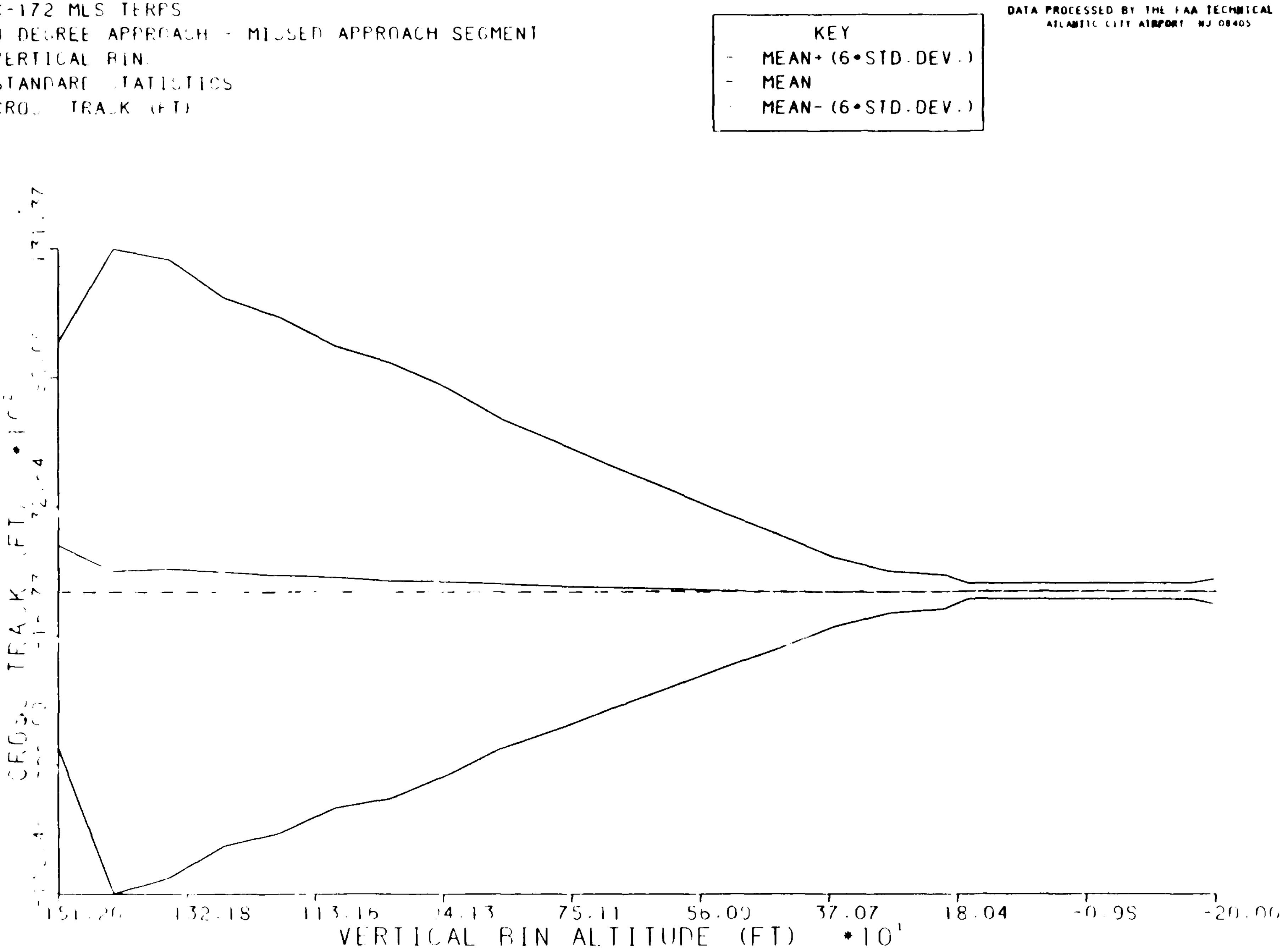
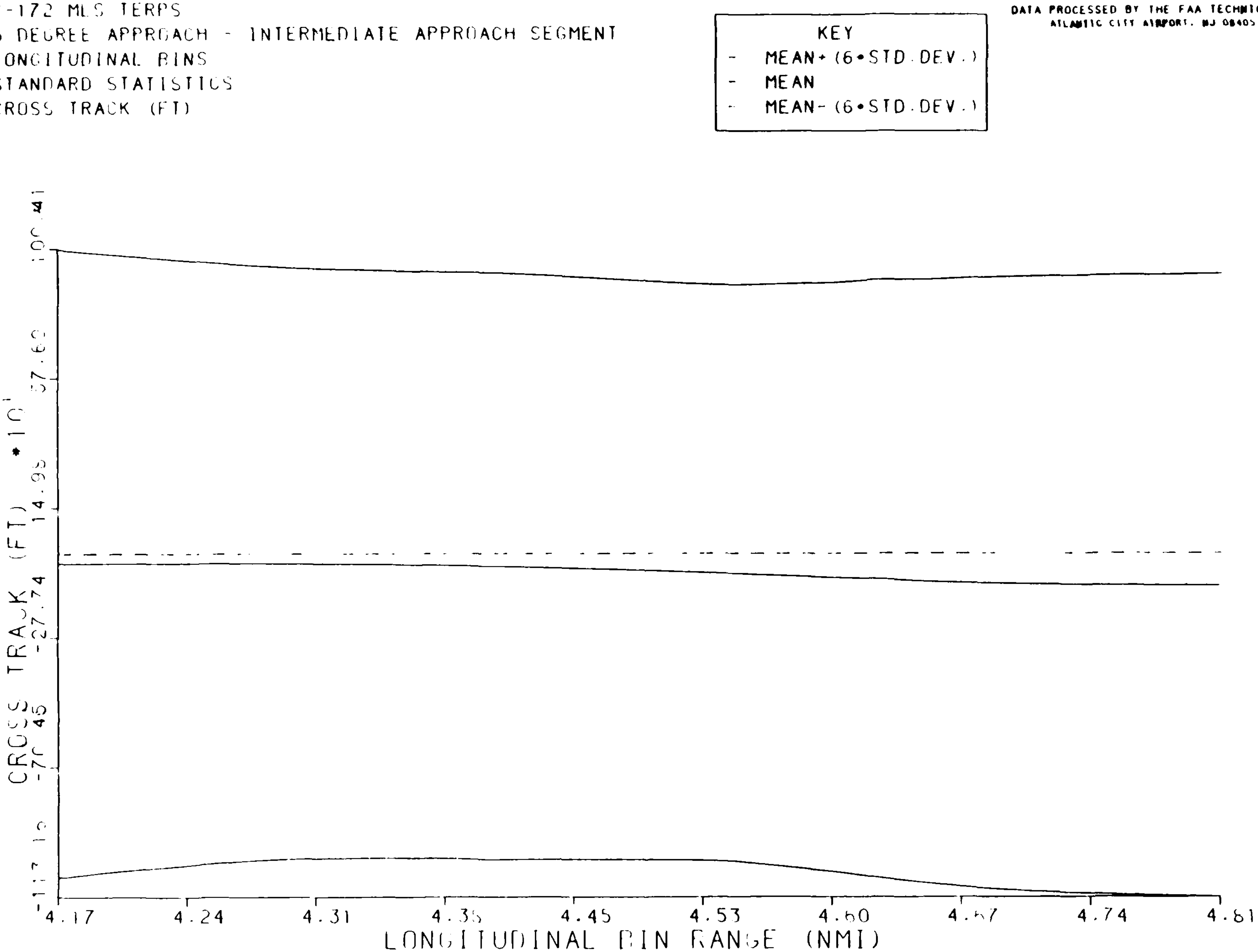
ATLANTIC CITY AIRPORT NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ALTITUDE (FT)

KEY
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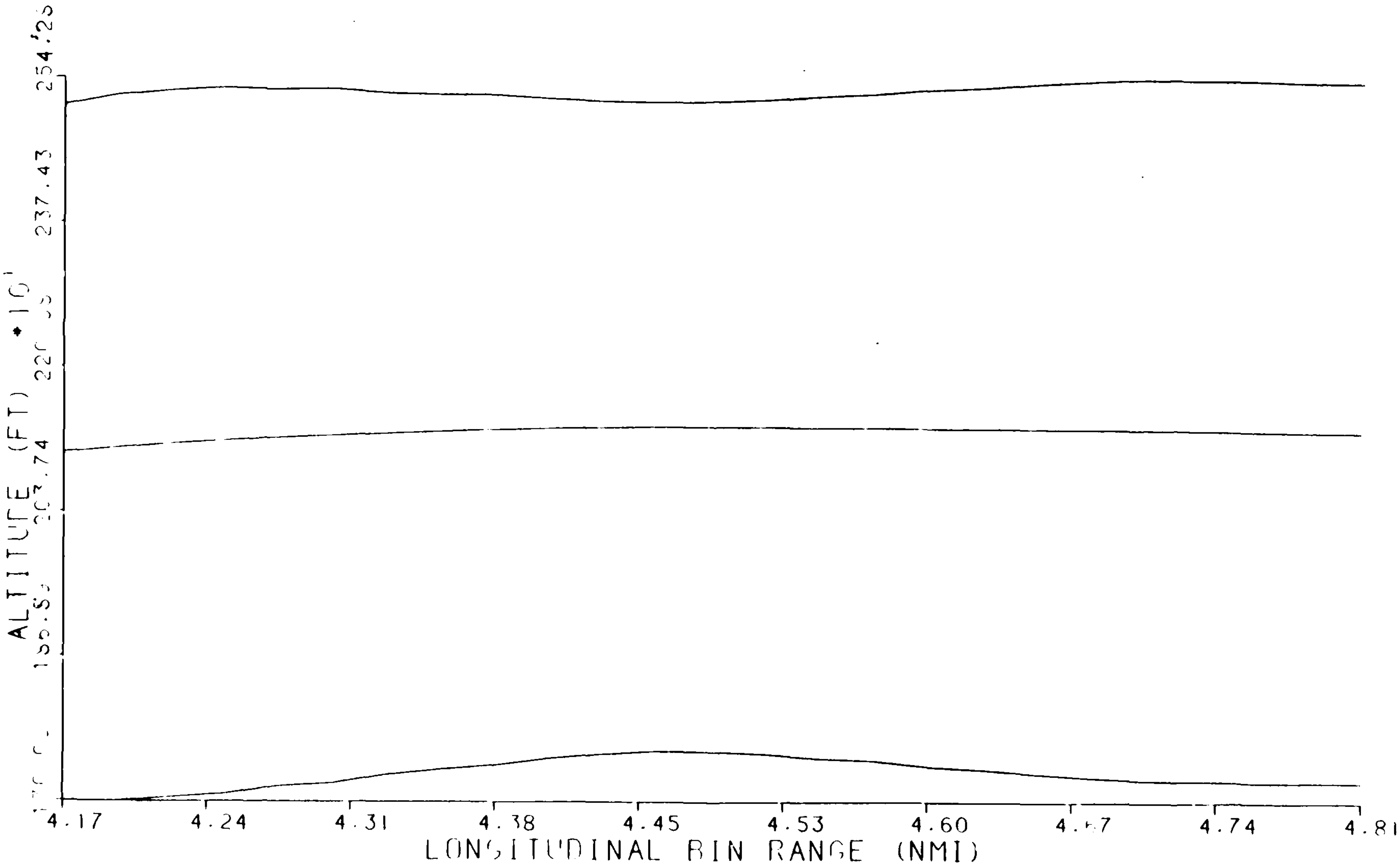
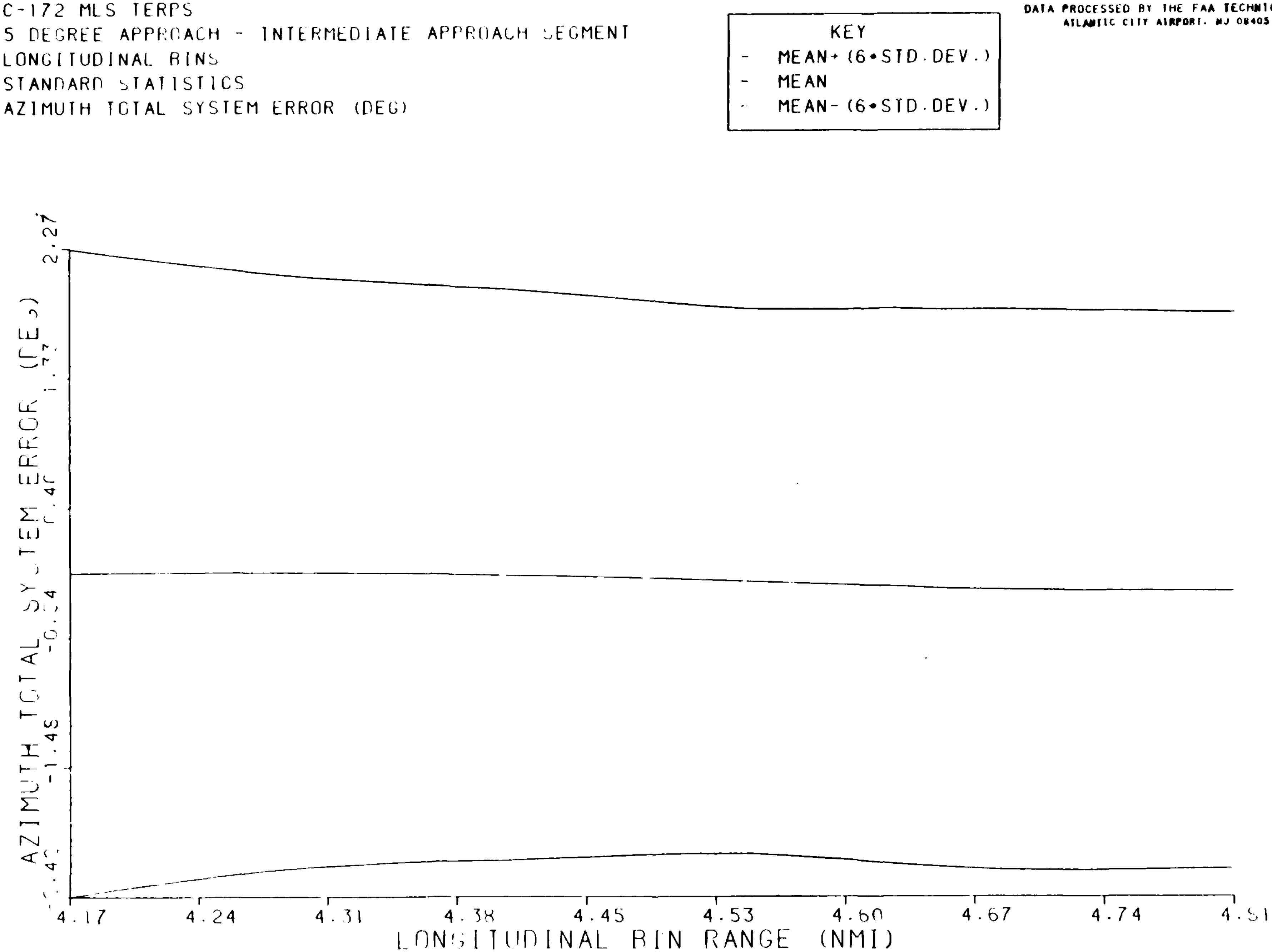
- MEAN
- MEAN-(6*STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (DEG)

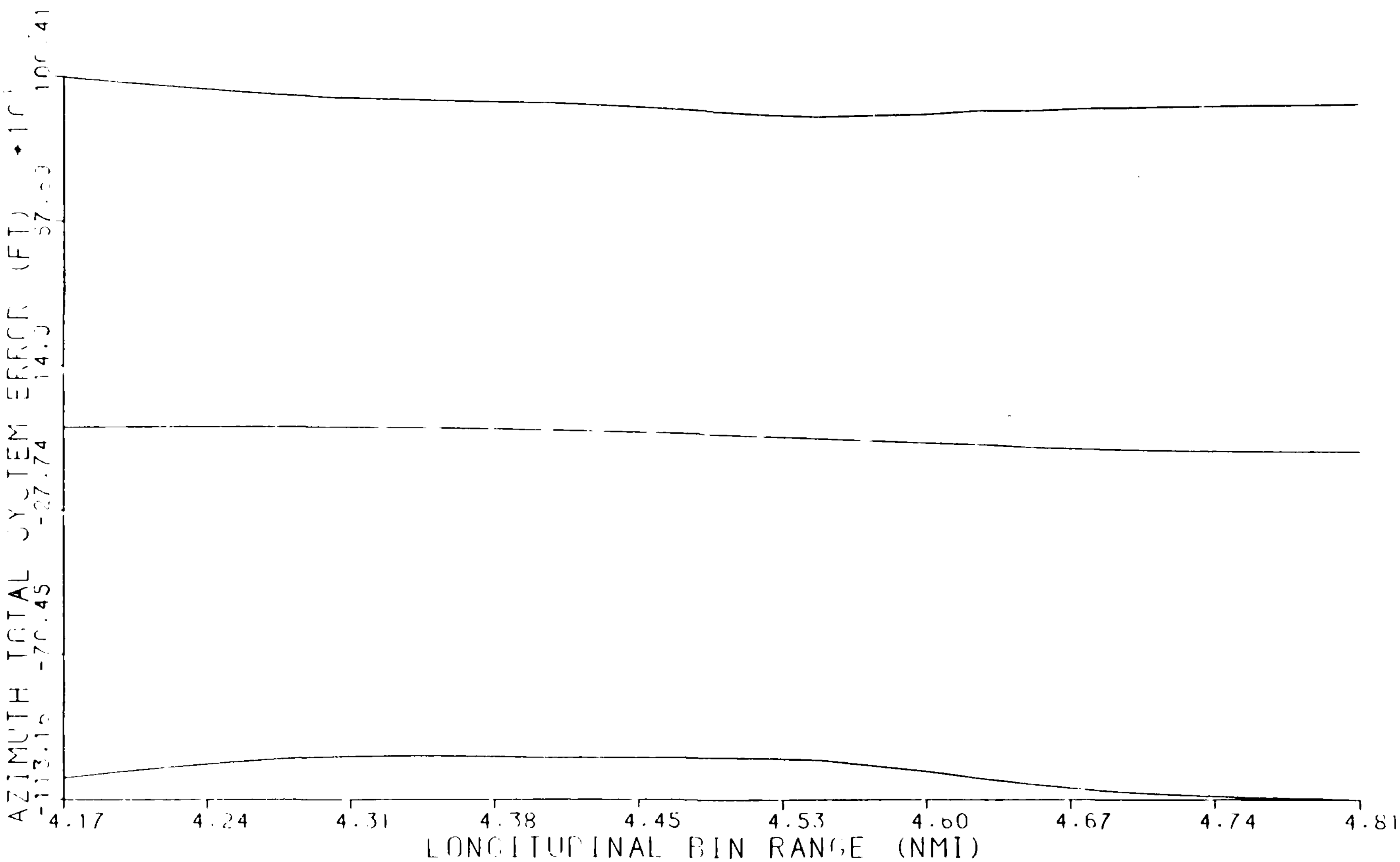
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



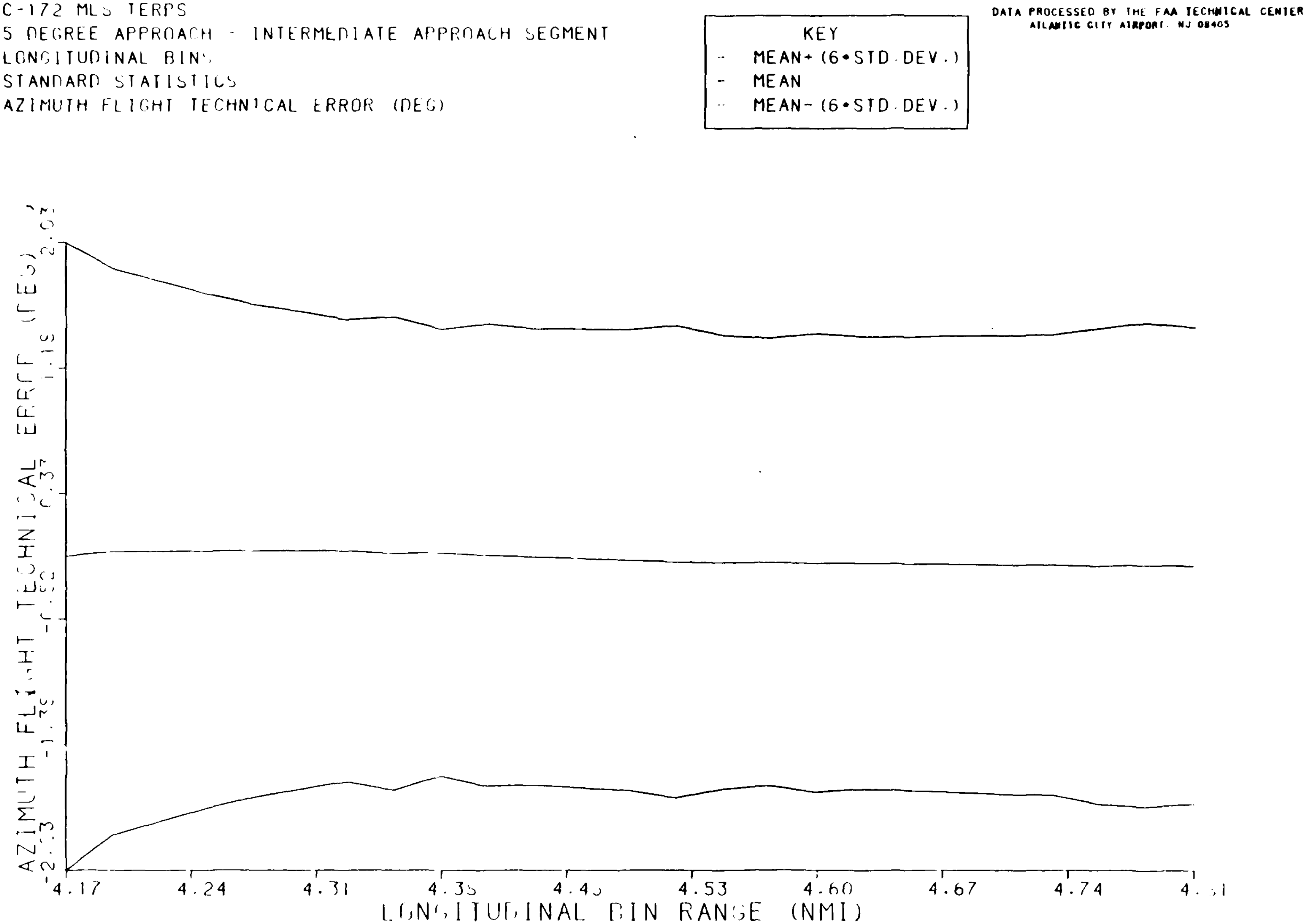
C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (FT)

KEY
- MEAN+(6•STD.DEV.)
- MEAN
- MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405



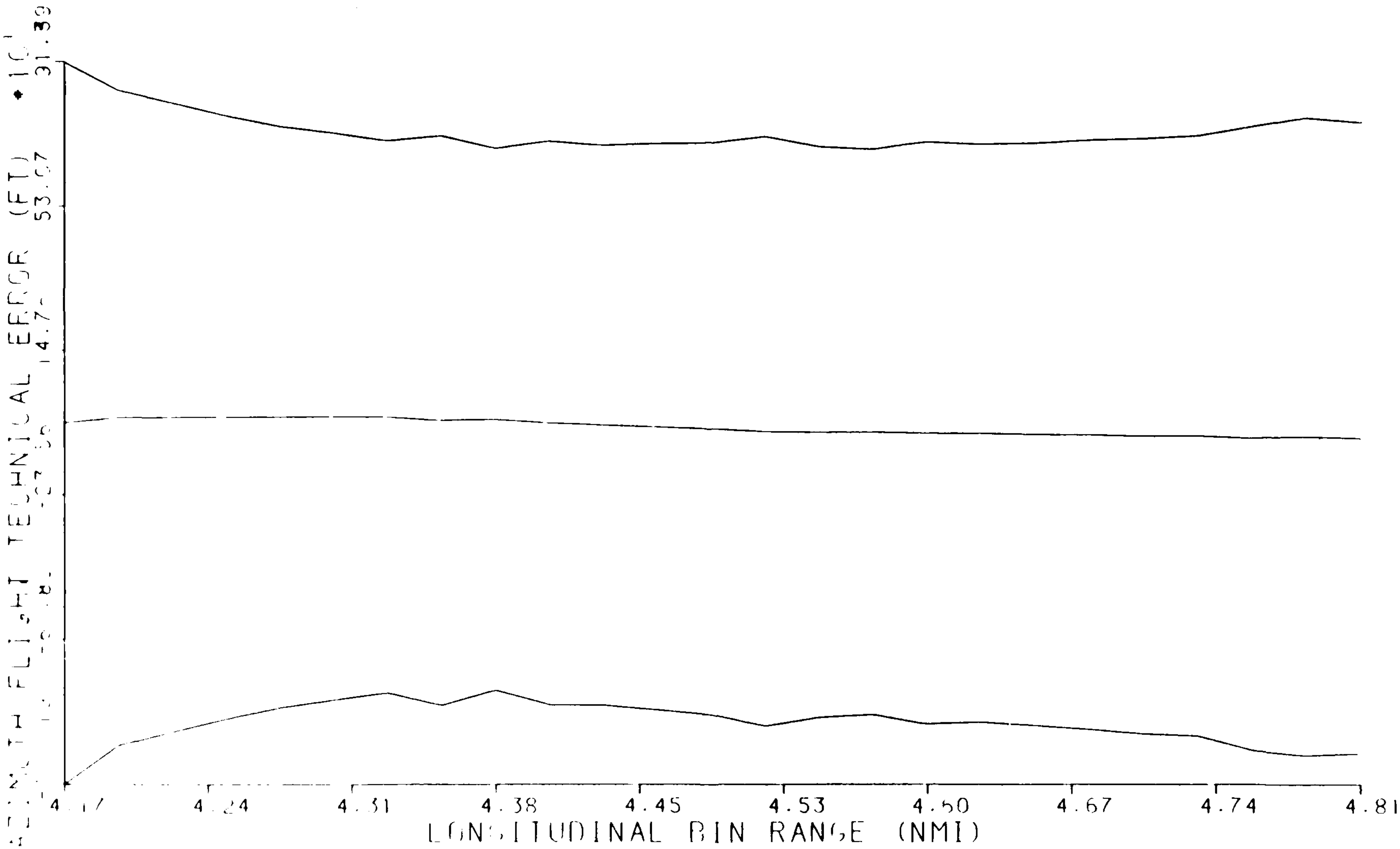
C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (DEG)

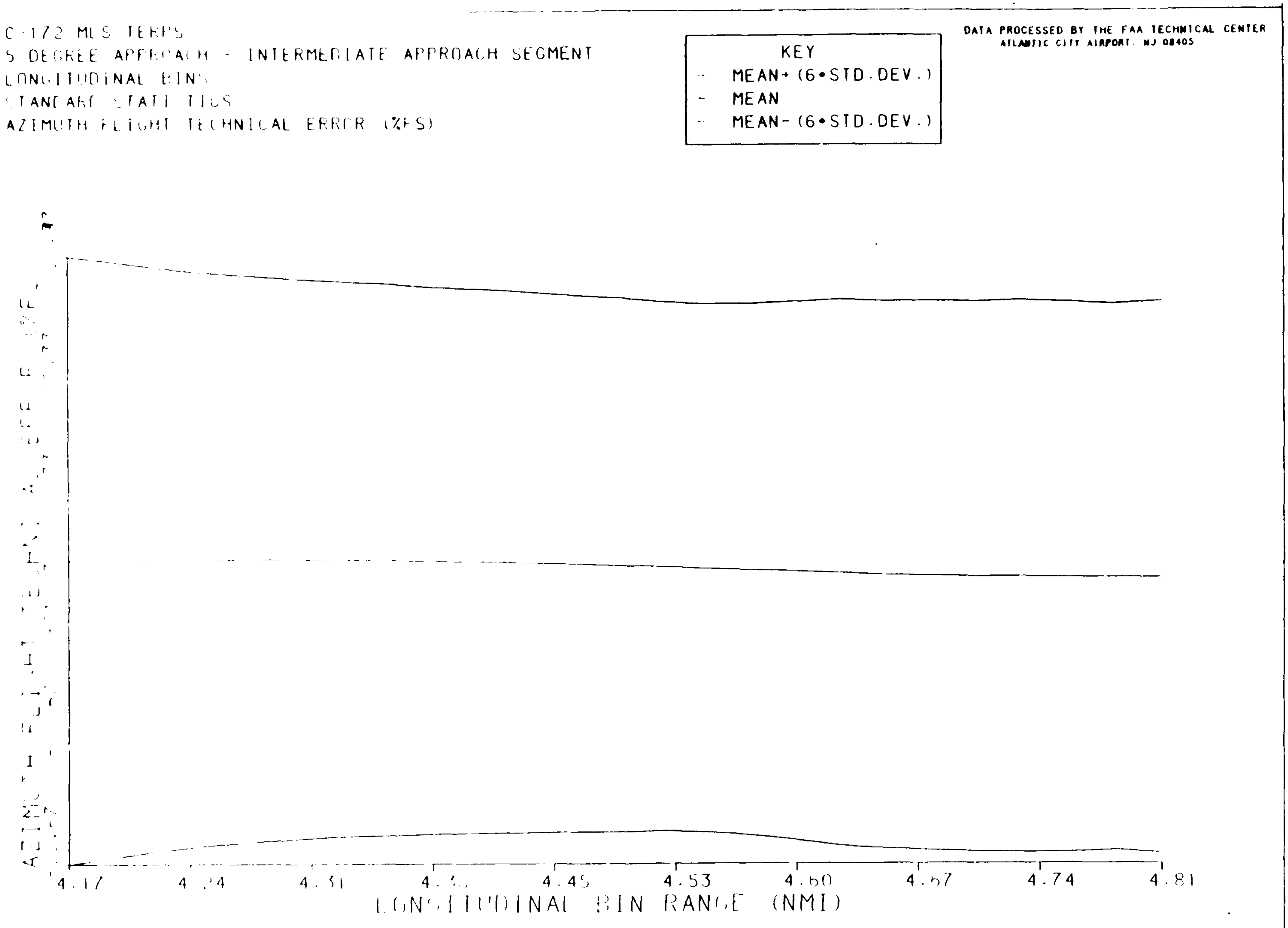


C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL EPROR (FT)

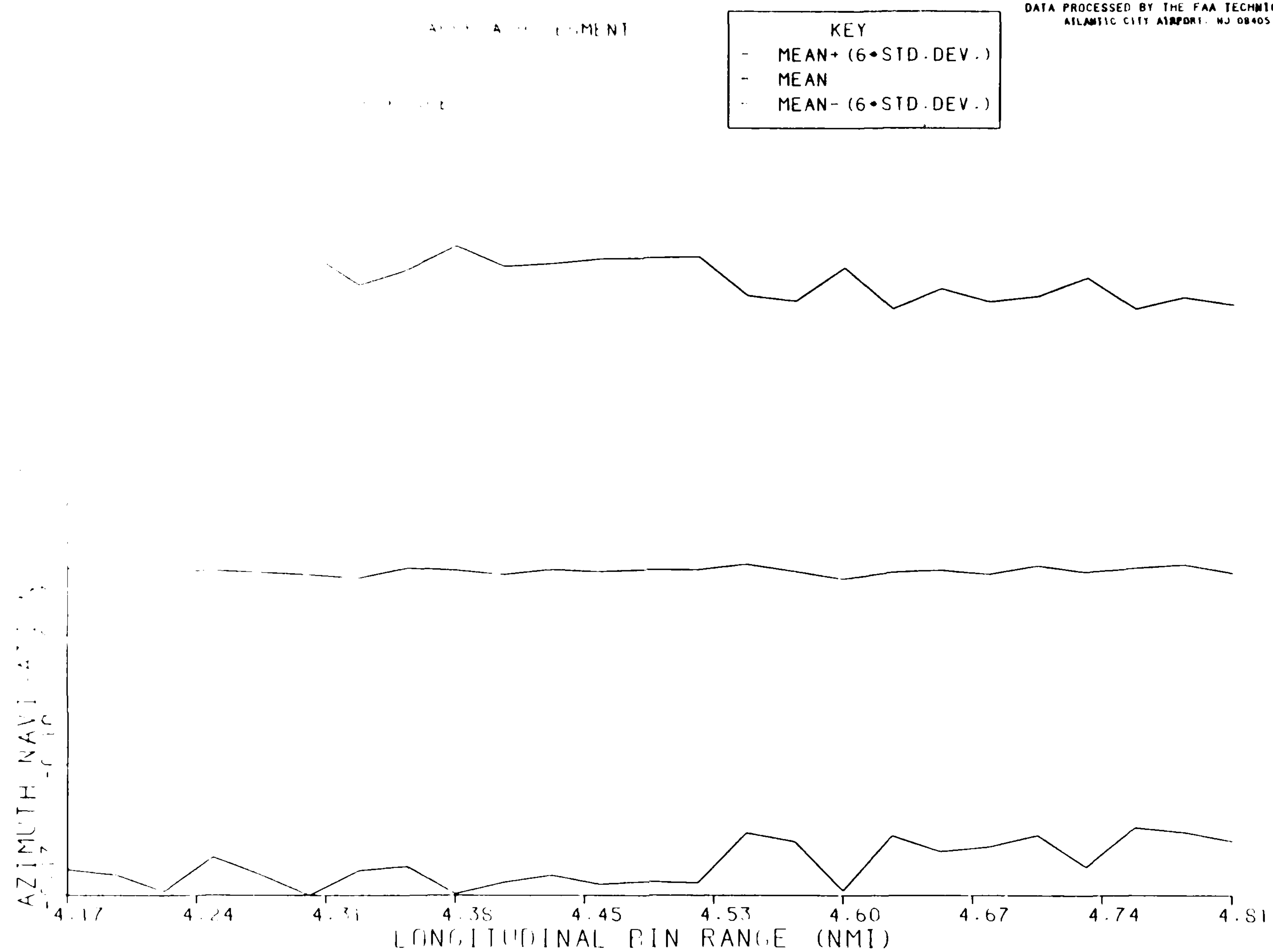
KEY
- MEAN+(6•STD.DEV.)
- MEAN
- MEAN-(6•STD.DEV.)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405




C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (%FS)
KEY
MEAN+(6•STD.DEV.)
MEAN
MEAN-(6•STD.DEV.)
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405
4.17
4.24
4.31
4.45
4.53
4.60
4.67
4.74
4.81
LONGITUDINAL BIN RANGE (NMI)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - INTERMEDIATE APPROACH SEGMENT
LONGITUDINAL PIN
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (FT)

KEY
MEAN+(6*STD DEV.)
MEAN
MEAN-(6*STD DEV.)

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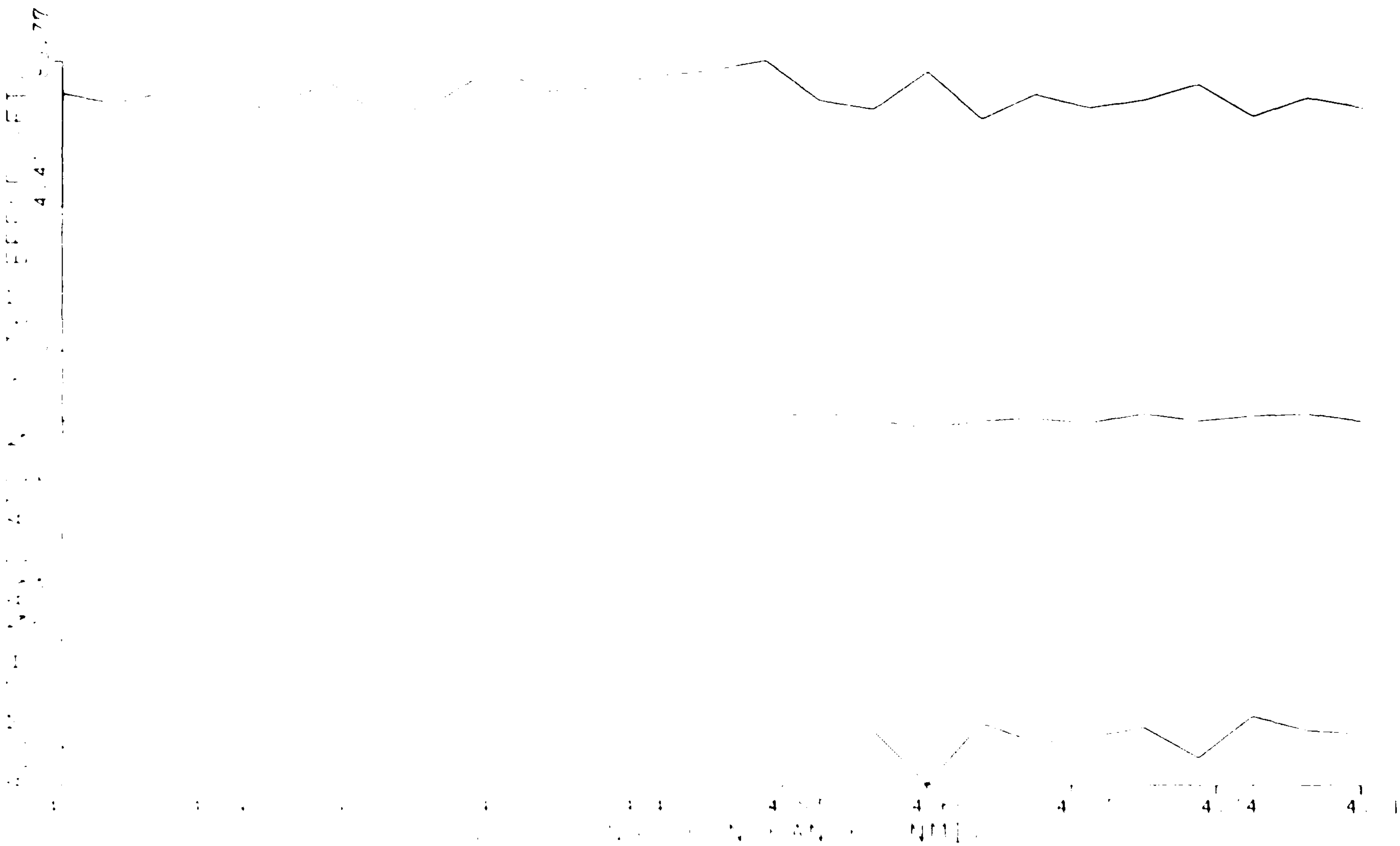
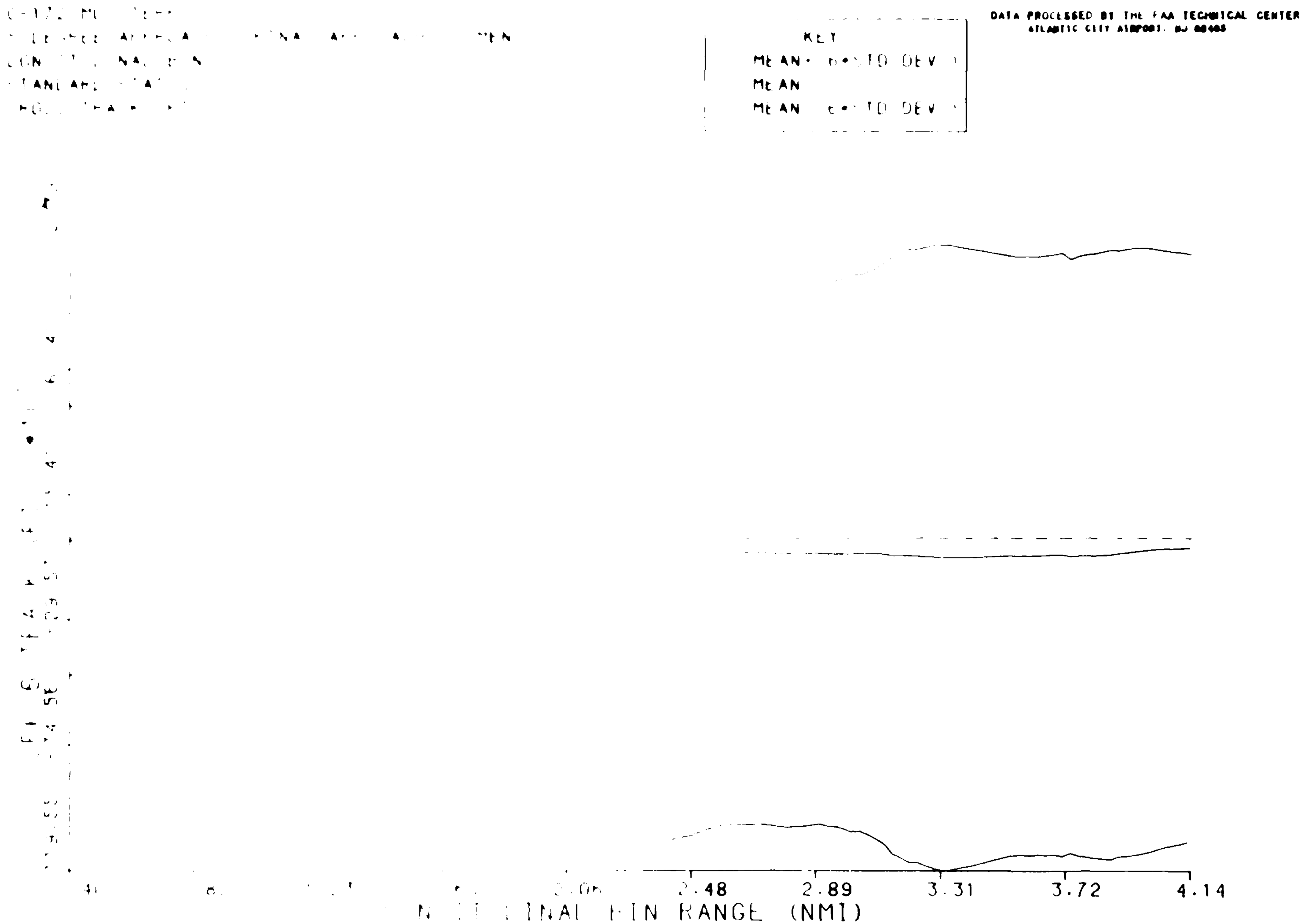
ATLANTIC CITY AIRPORT, NJ 08405

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MEAN
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405
2.48
2.89
3.31
3.72
4.14
RANGE (NMI)

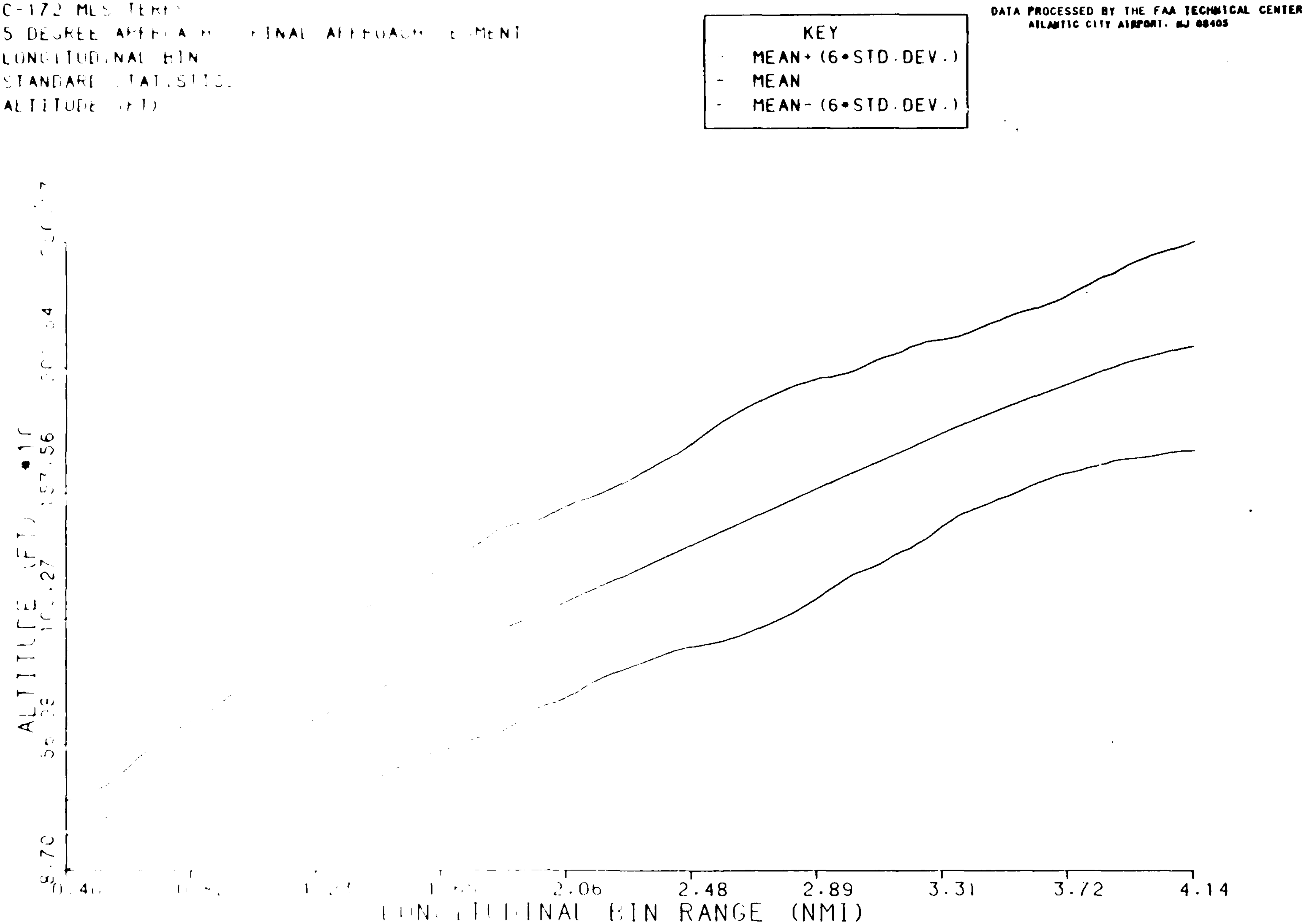
C-172 MLS TERR

5 DEGREE APPROACH FINAL APPROACH SEGMENT

LONGITUDINAL BIN

STANDARD STATISTICS

ALTITUDE (FT)



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (DEG)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

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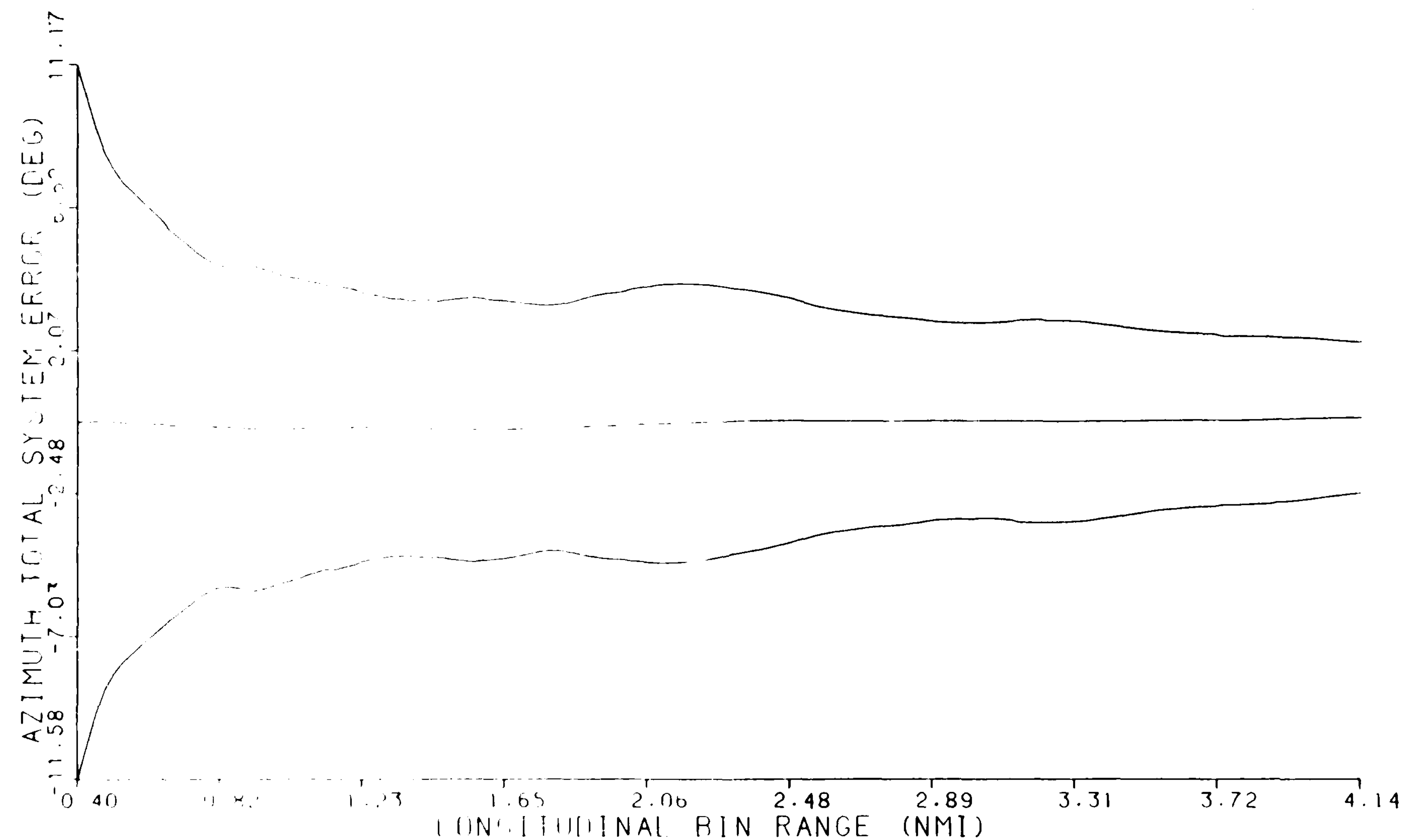
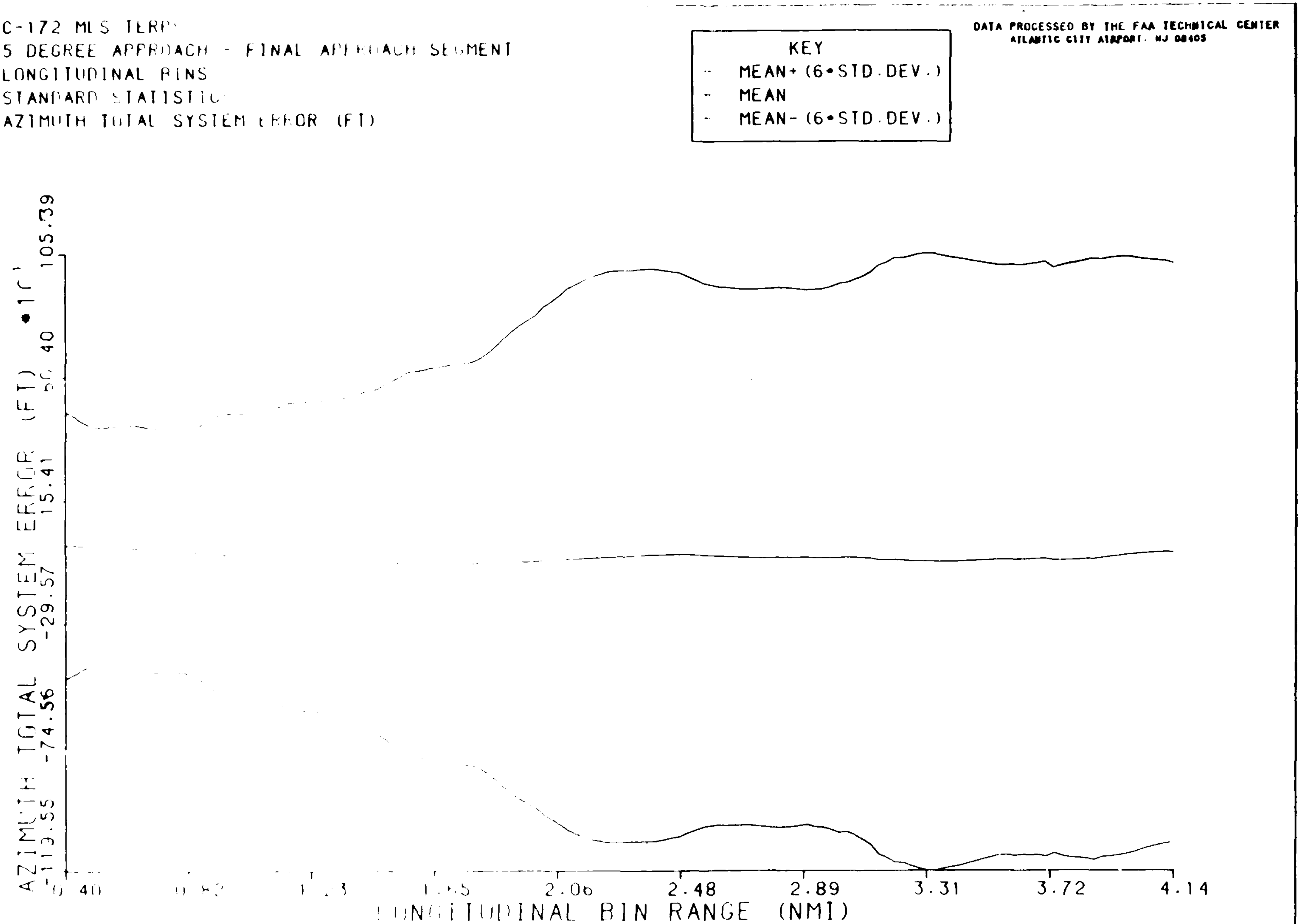
- MEAN
- MEAN-(6*STD.DEV.)



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH TOTAL SYSTEM ERROR (FT)



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH FLIGHT TECHNICAL ERROR (DEG)

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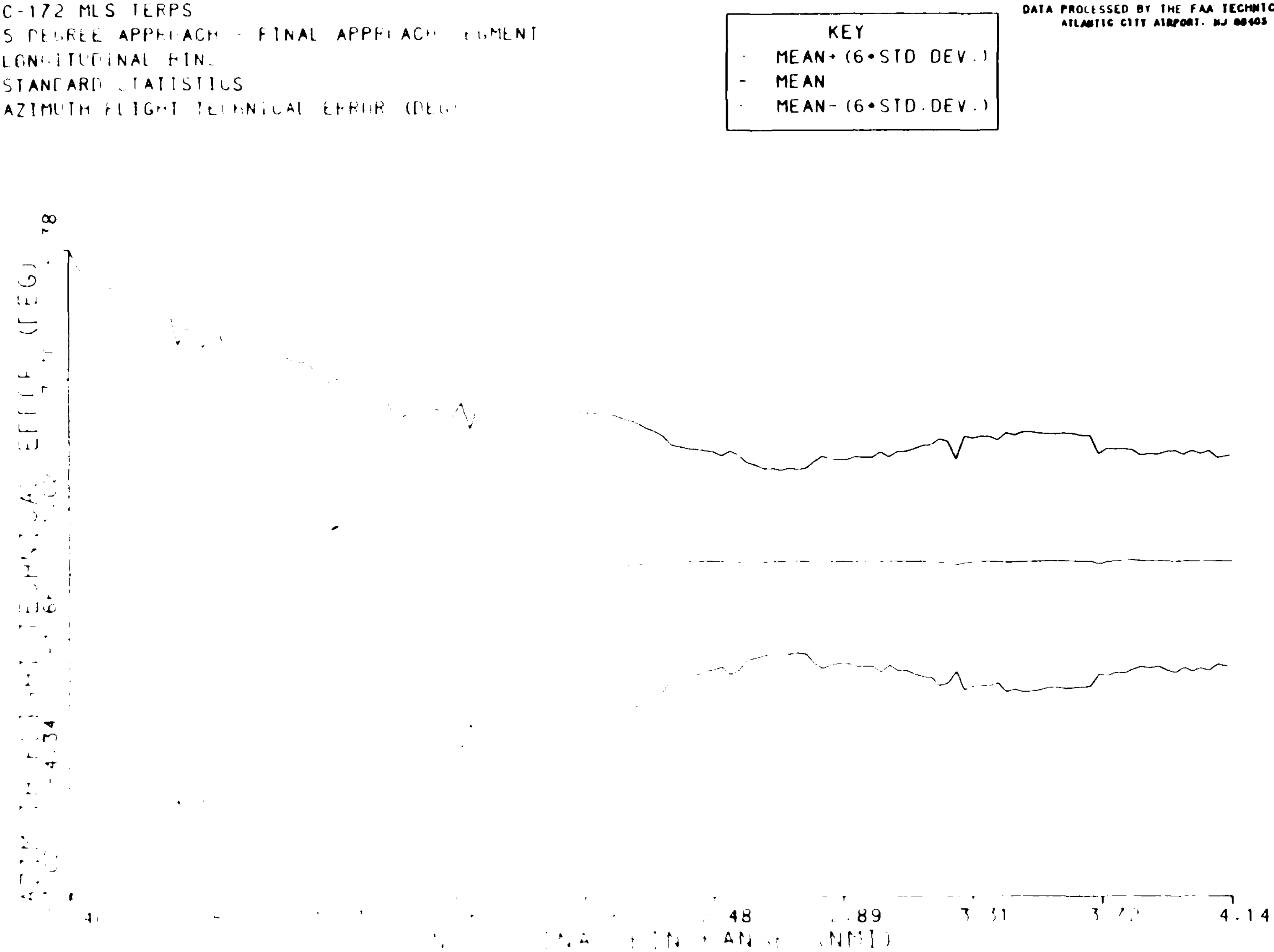
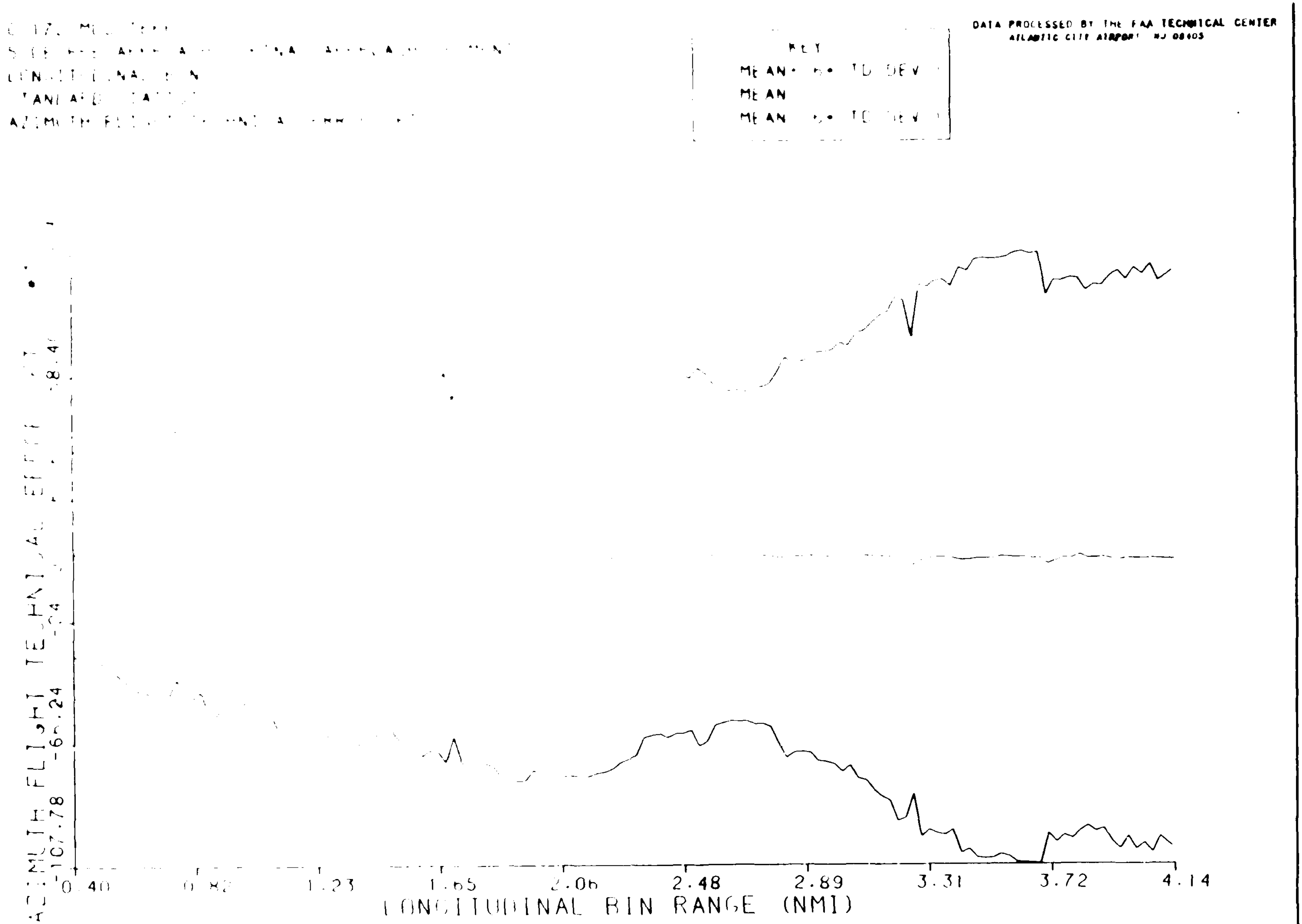
ATLANTIC CITY AIRPORT, NJ 08405

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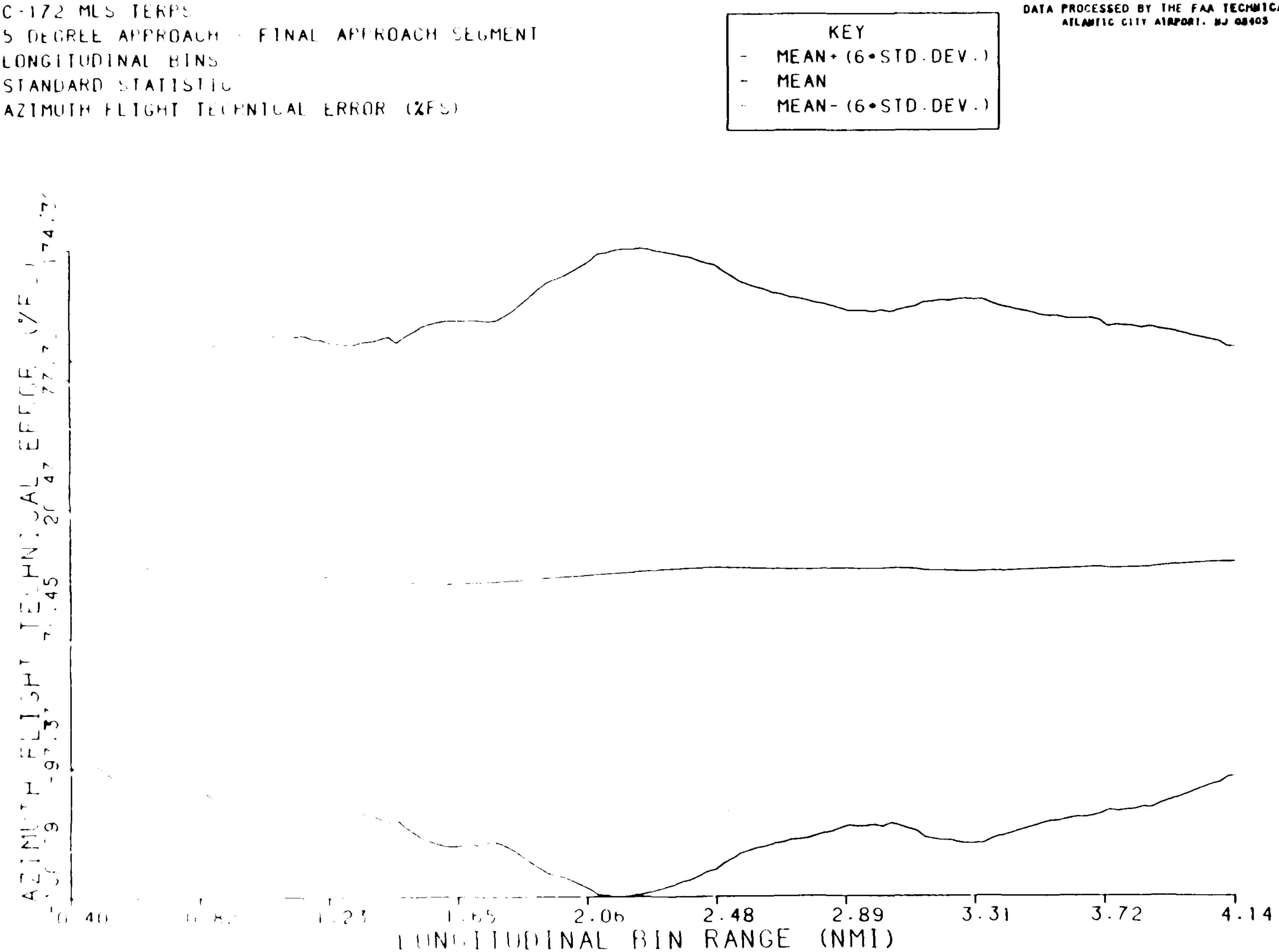
1.65
2.06
2.48
2.89
3.31
3.72
4.14
LONGITUDINAL BIN RANGE (NMI)

C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTIC
AZIMUTH FLIGHT TECHNICAL ERROR (%FS)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (DEG)

KEY
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- MEAN
- MEAN-(6*STD.DEV.)

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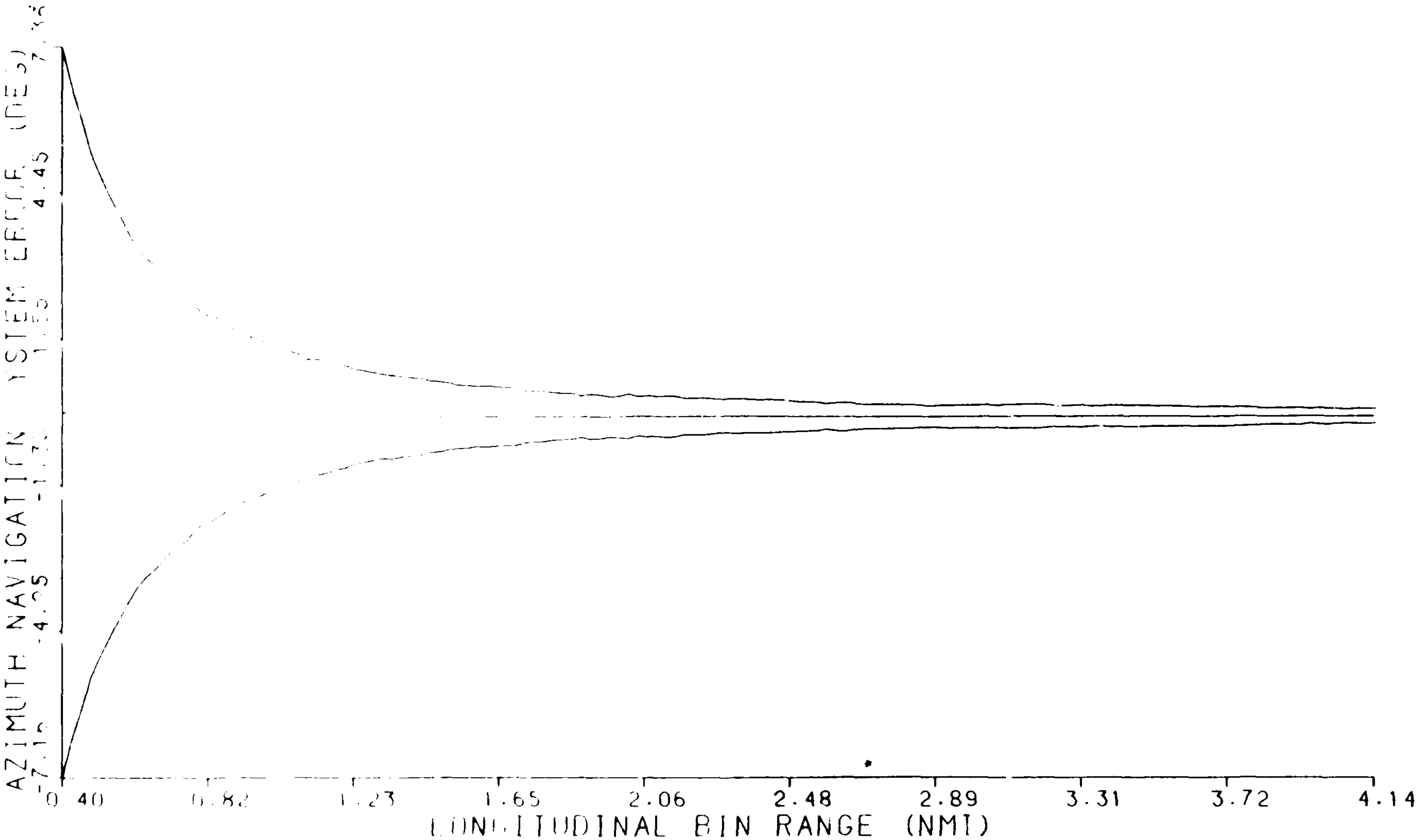
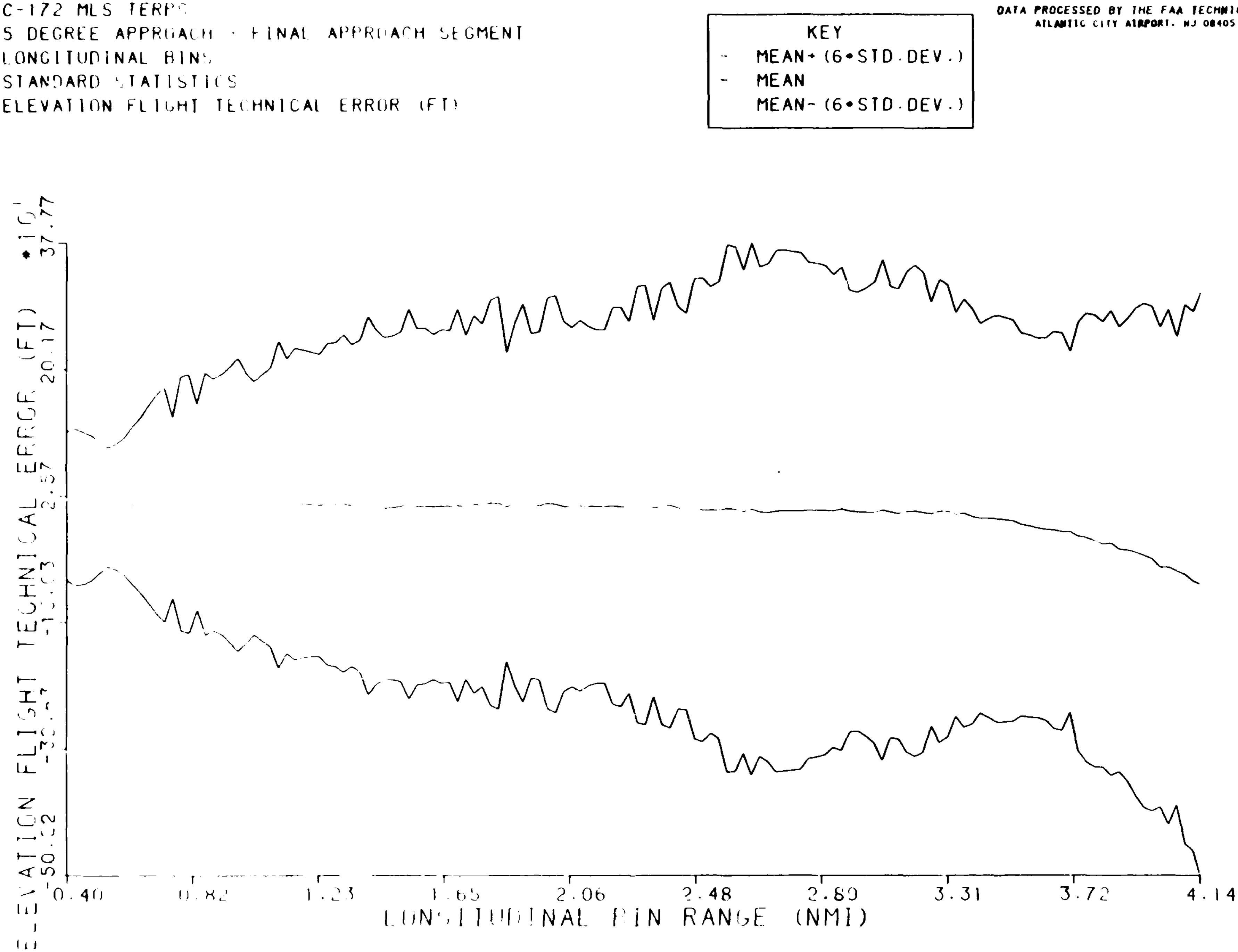
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (%FS)

KEY
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MEAN
MEAN-(6•STD.DEV.)

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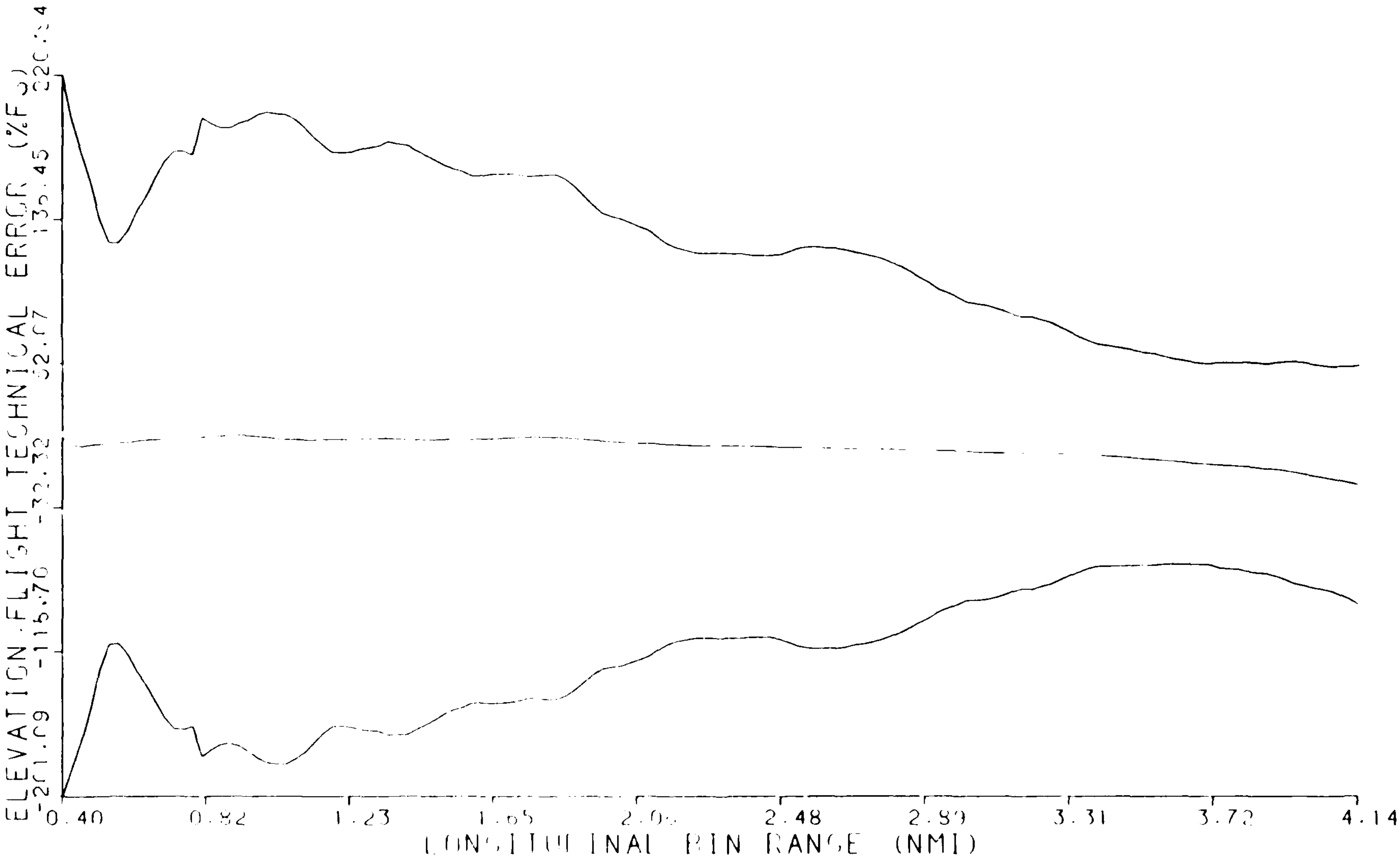
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION NAVIGATION SYSTEM ERROR (DEG)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405

KEY
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MEAN
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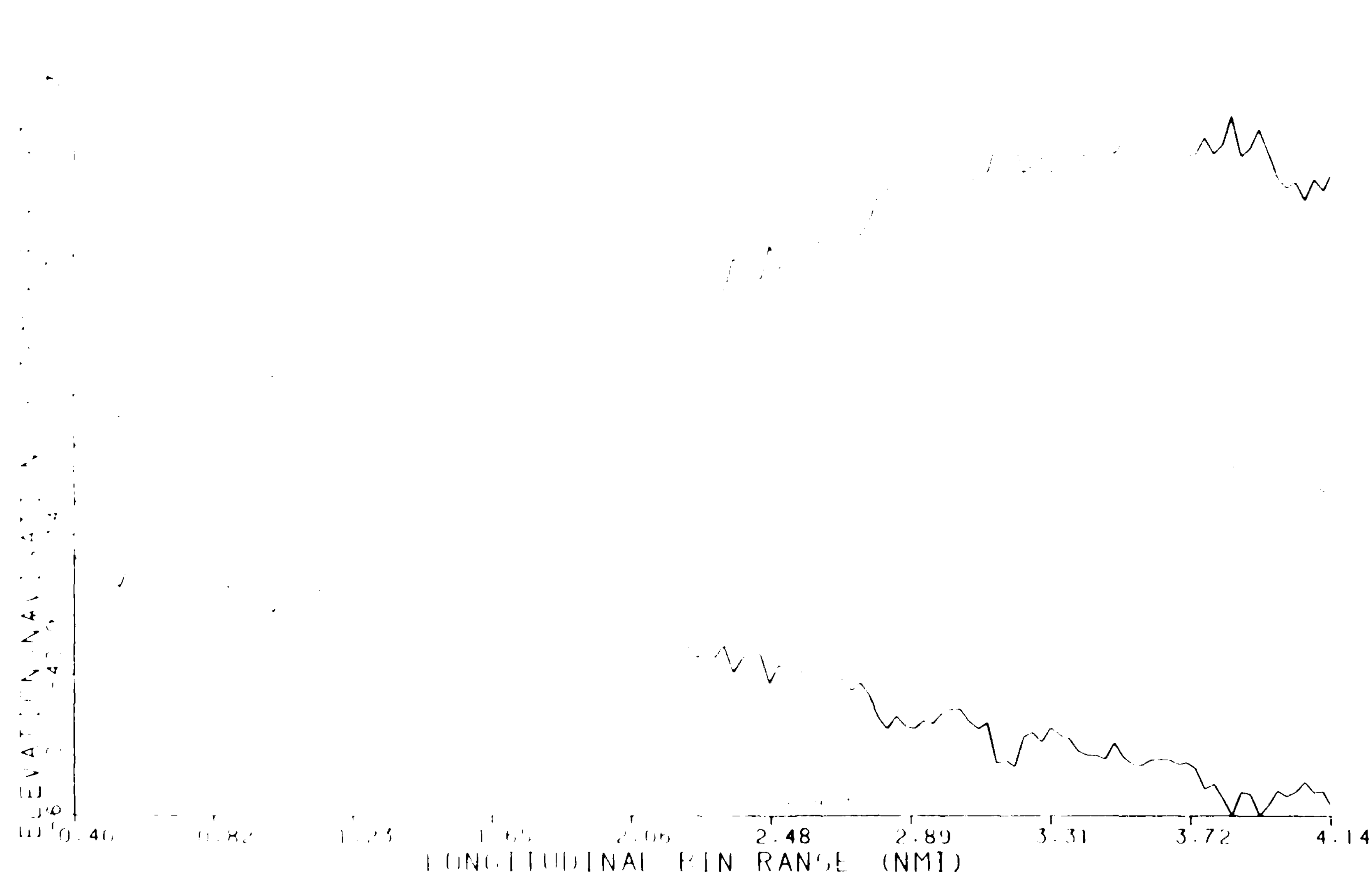
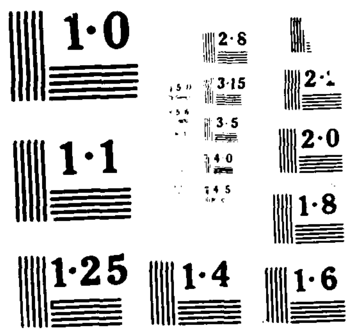
ATLANTIC CITY AIRPORT, NJ 08405



AD-A191 241 CESSNA 172 MLS (MICROWAVE LANDING SYSTEM) TERMINAL 3/3
INSTRUMENT PROCEDURES (..(U) FEDERAL AVIATION
ADMINISTRATION WASHINGTON DC E J PUGACZ OCT 87
UNCLASSIFIED DOT/FAA/CT-TN87/36 F/G 17/7.3 NL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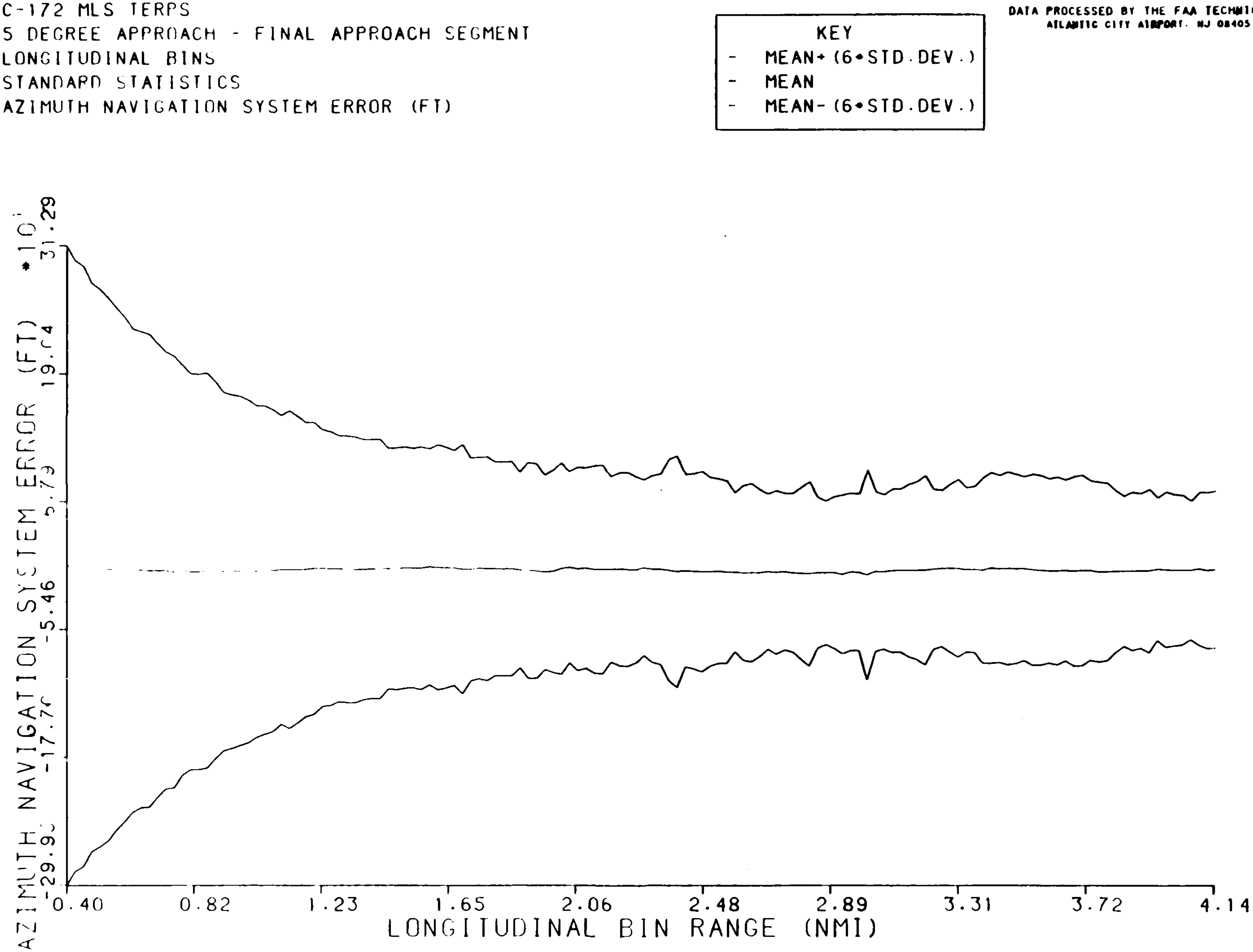
2·8
3·15
3·5
2·0
1·1
1·8
1·25
1·4
1·6

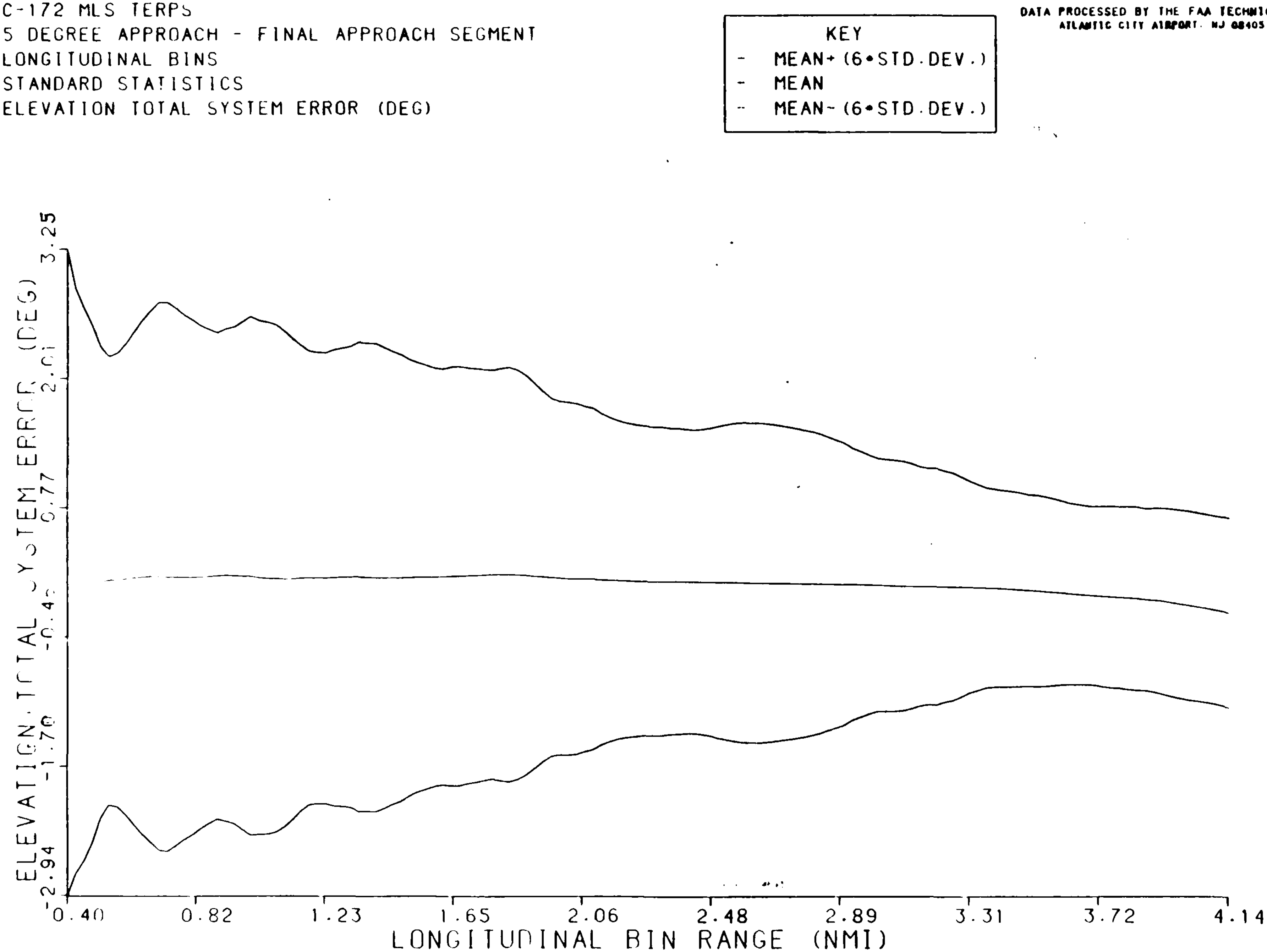
C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
AZIMUTH NAVIGATION SYSTEM ERROR (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION TOTAL SYSTEM ERROR (DEG)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION TOTAL SYSTEM ERROR (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

KEY
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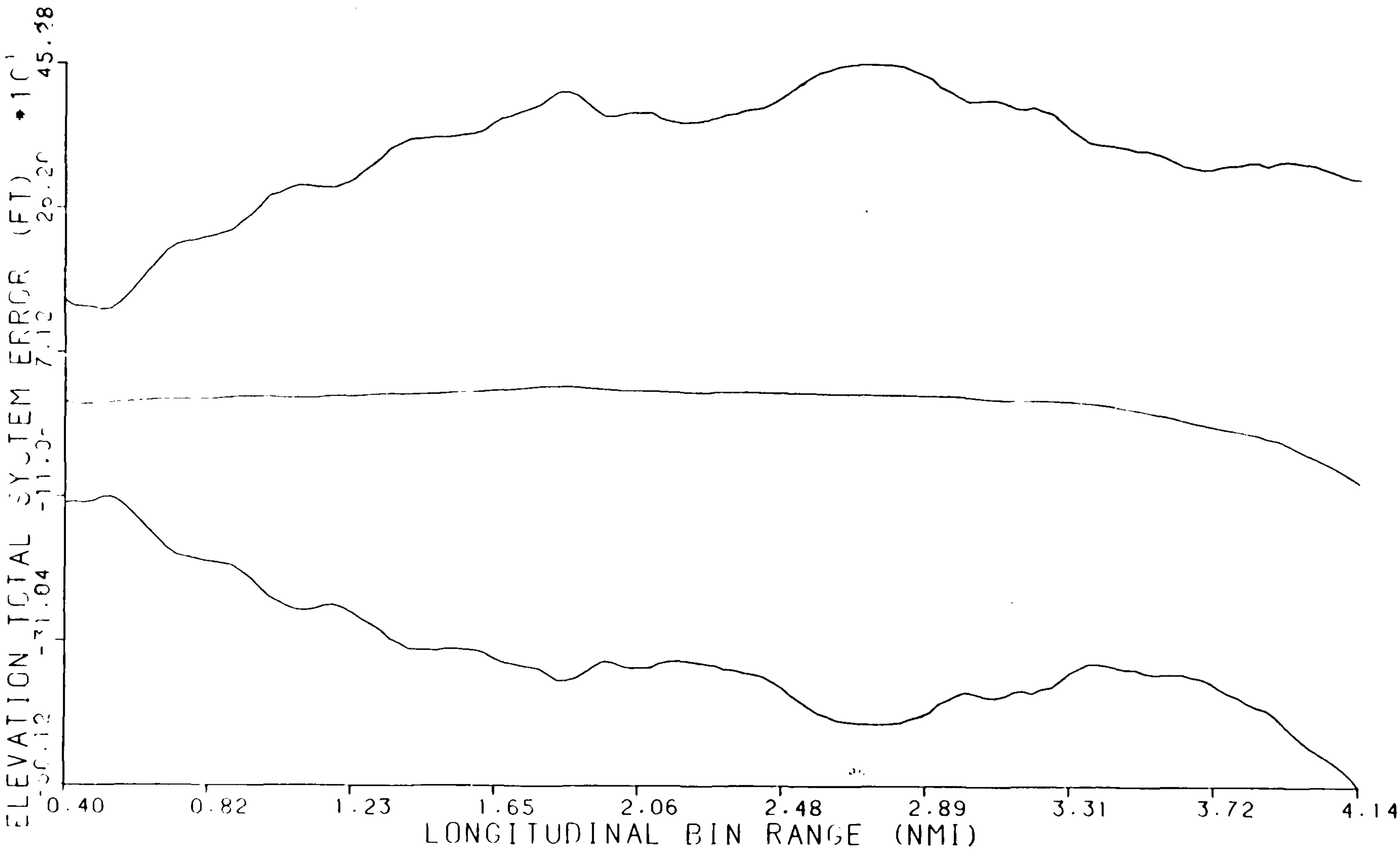

C-172 MLS TERPS
5 DEGREE APPROACH - FINAL APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ELEVATION FLIGHT TECHNICAL ERROR (DEG)

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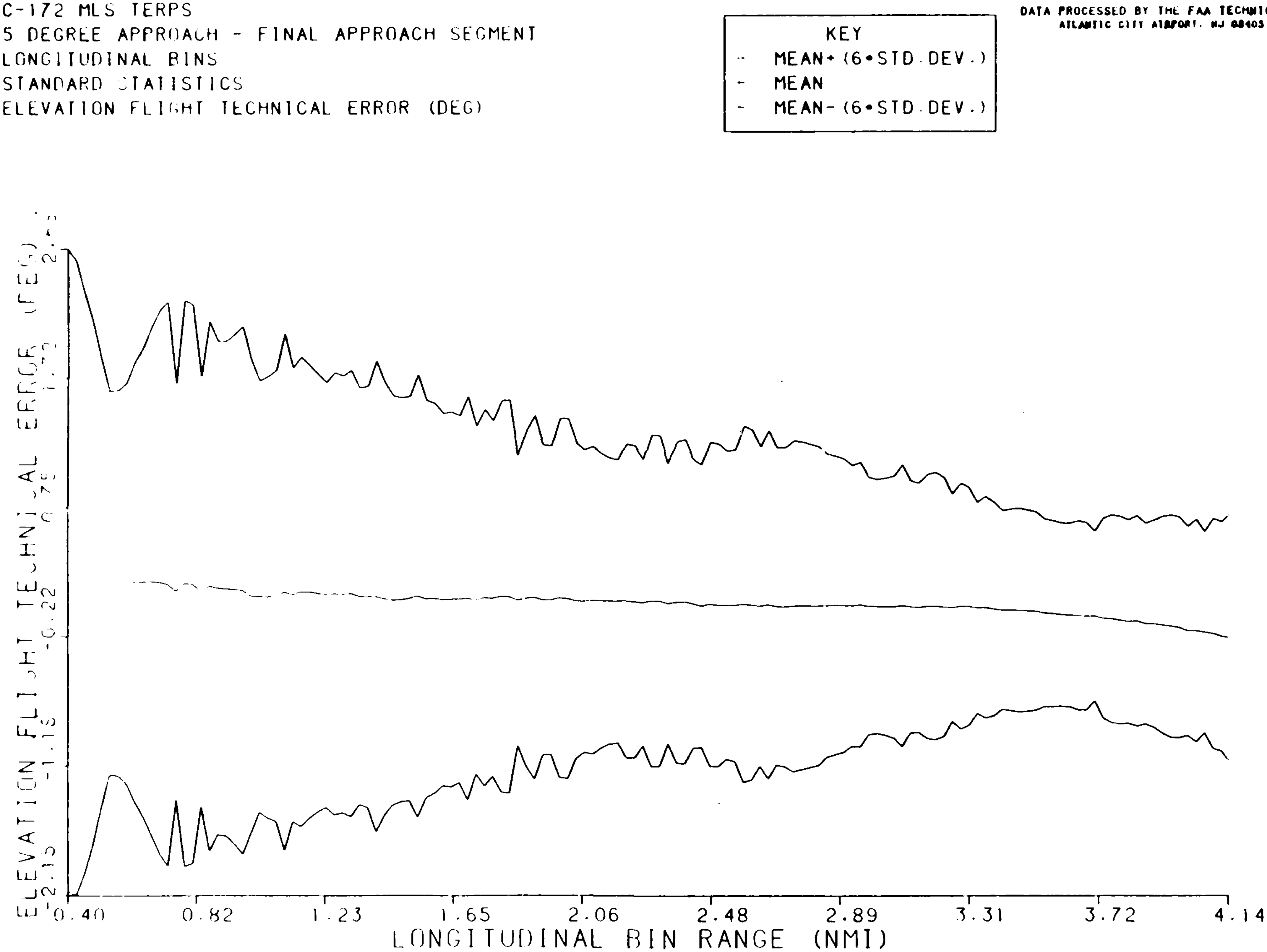
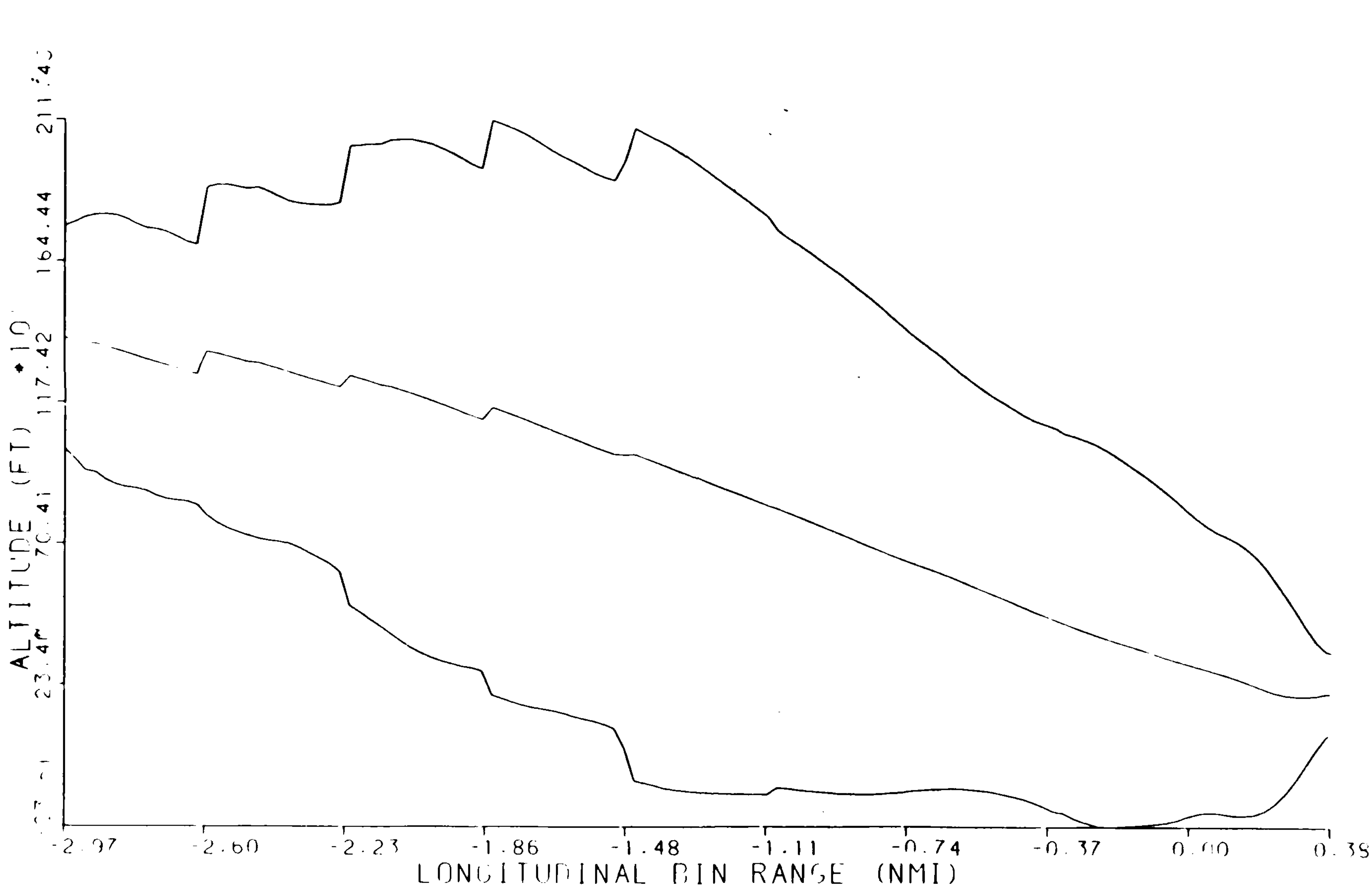
ATLANTIC CITY AIRPORT, NJ 08405



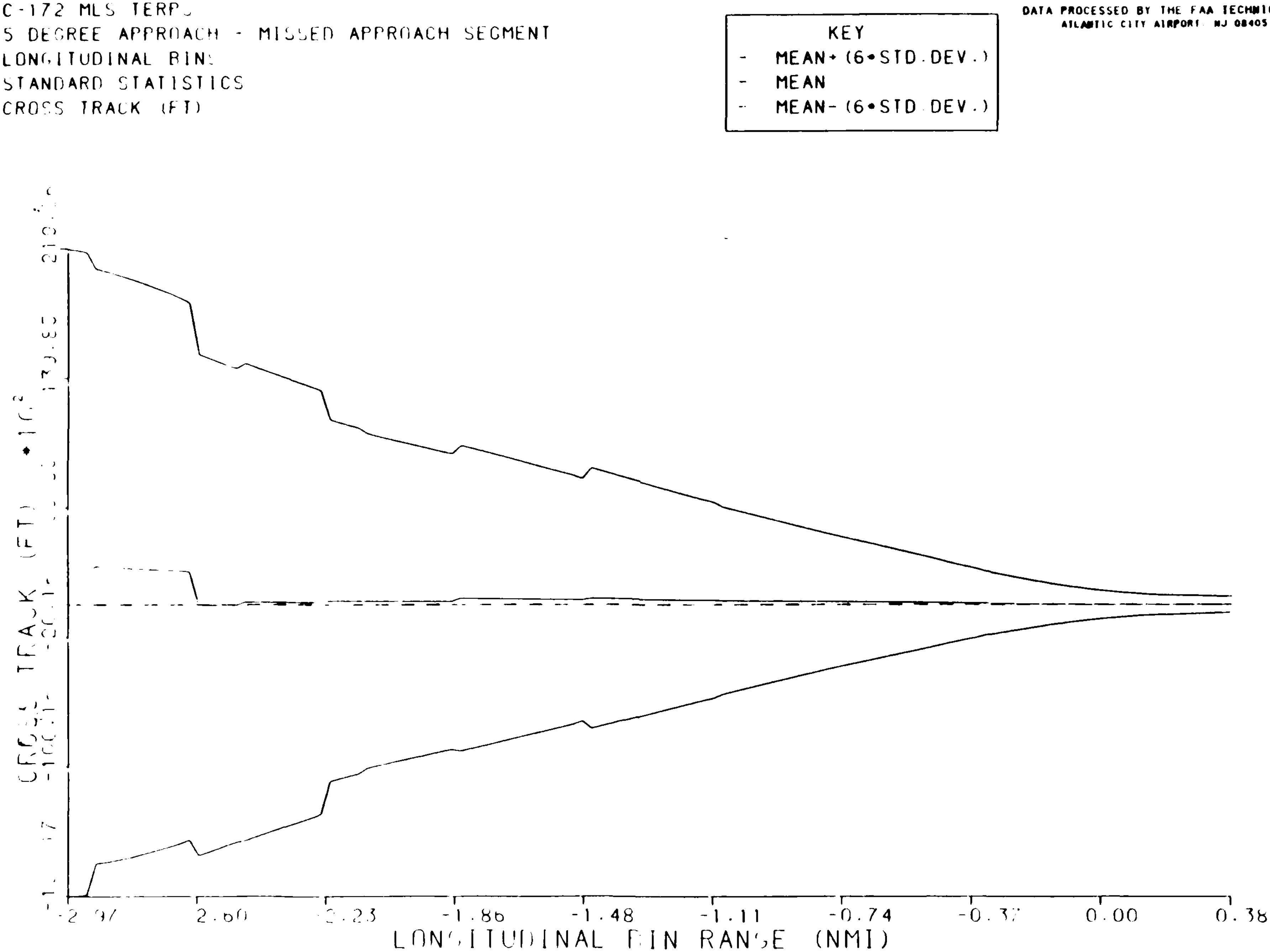
C-172 MLS TERPS
5 DEGREE APPROACH - MISSED APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
ALTITUDE (FT)



DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

C-172 MLS TERPS
5 DEGREE APPROACH - MISSED APPROACH SEGMENT
LONGITUDINAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
5 DEGREE APPROACH - MISSED APPROACH SEGMENT
VERTICAL BINS
STANDARD STATISTICS
ALONG TRACK (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT NJ 08405

KEY
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- MEAN
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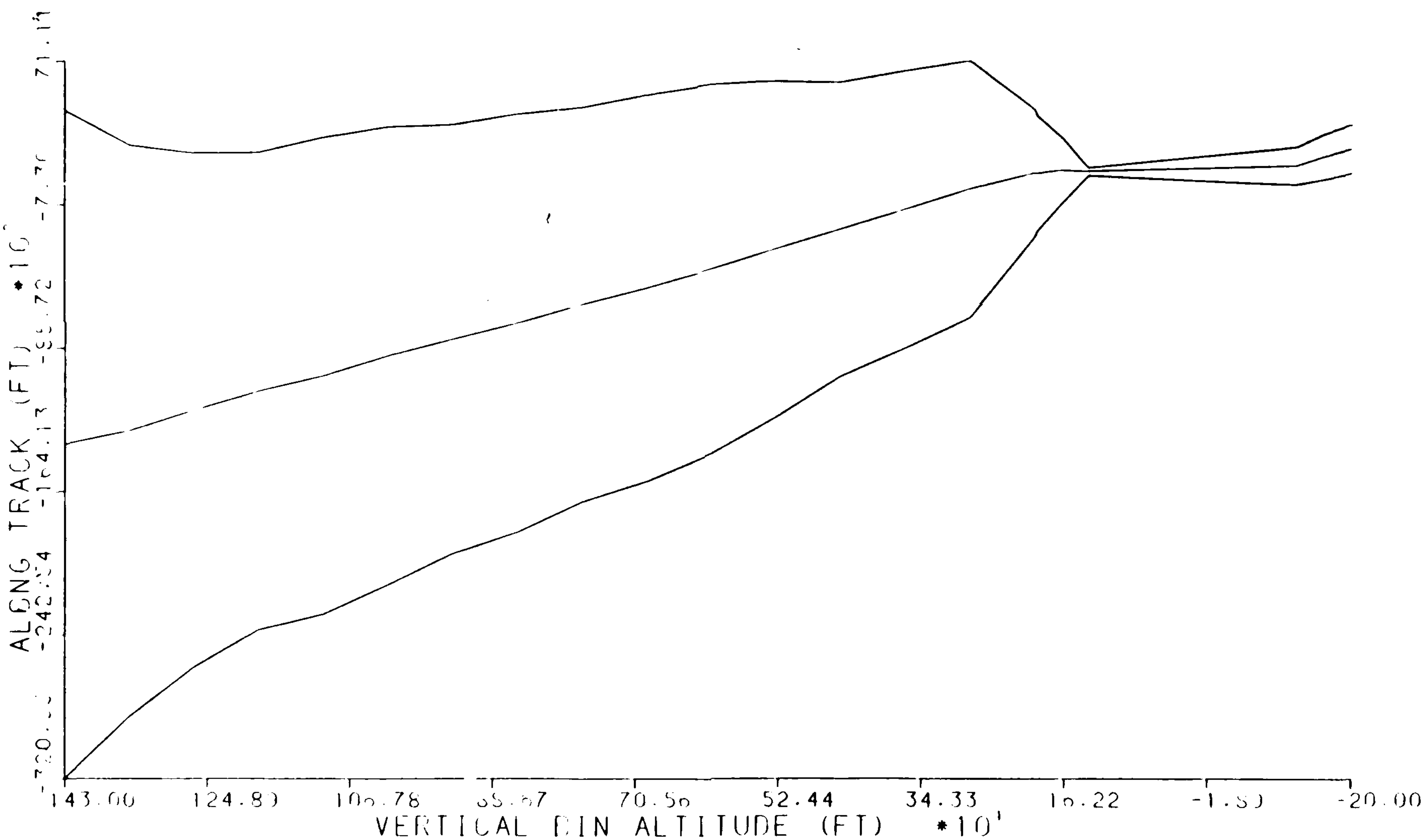

C-172 MLS TERPS
5 DEGREE APPROACH - MISSED APPROACH SEGMENT
VERTICAL BINS
STANDARD STATISTICS
CROSS TRACK (FT)

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405

KEY
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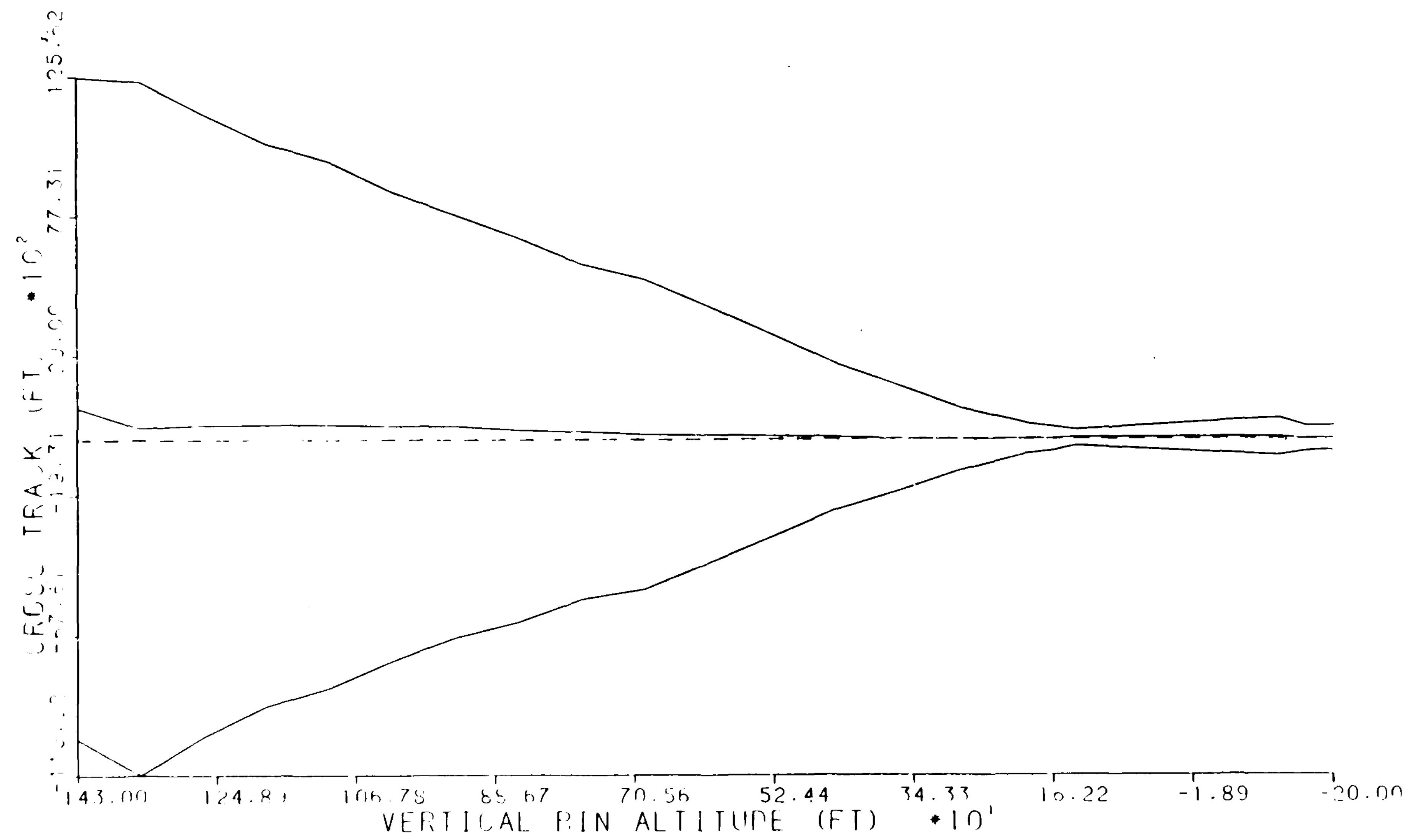
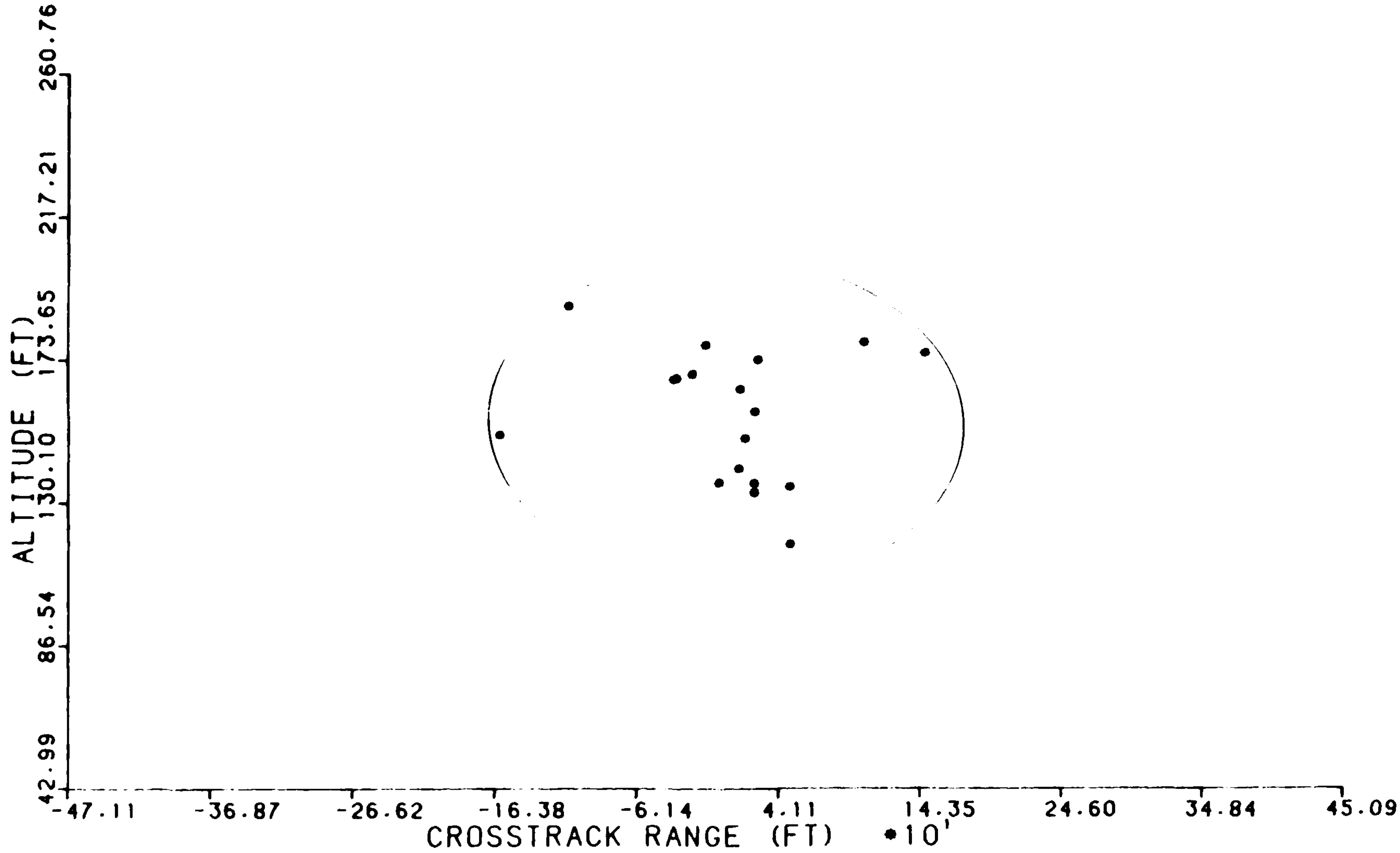


APPENDIX I

SAMPLE LANDING SEGMENT SCATTER PLOTS

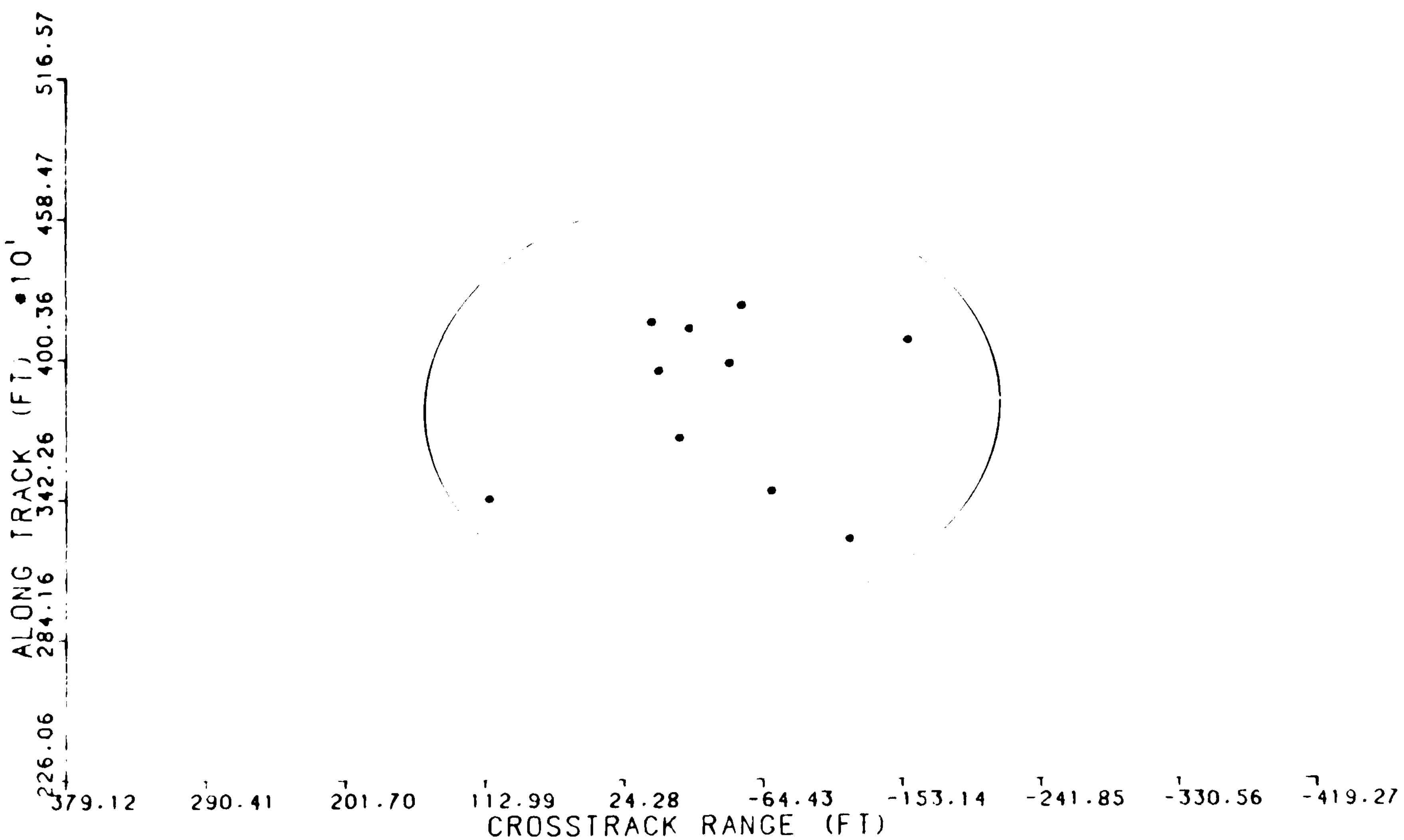
C-172 MLS TERPS
3 DEGREE APPROACH - LANDING SEGMENT
LONGITUDINAL BINS
ALTITUDE (FT) AT RANGE 2922.561

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



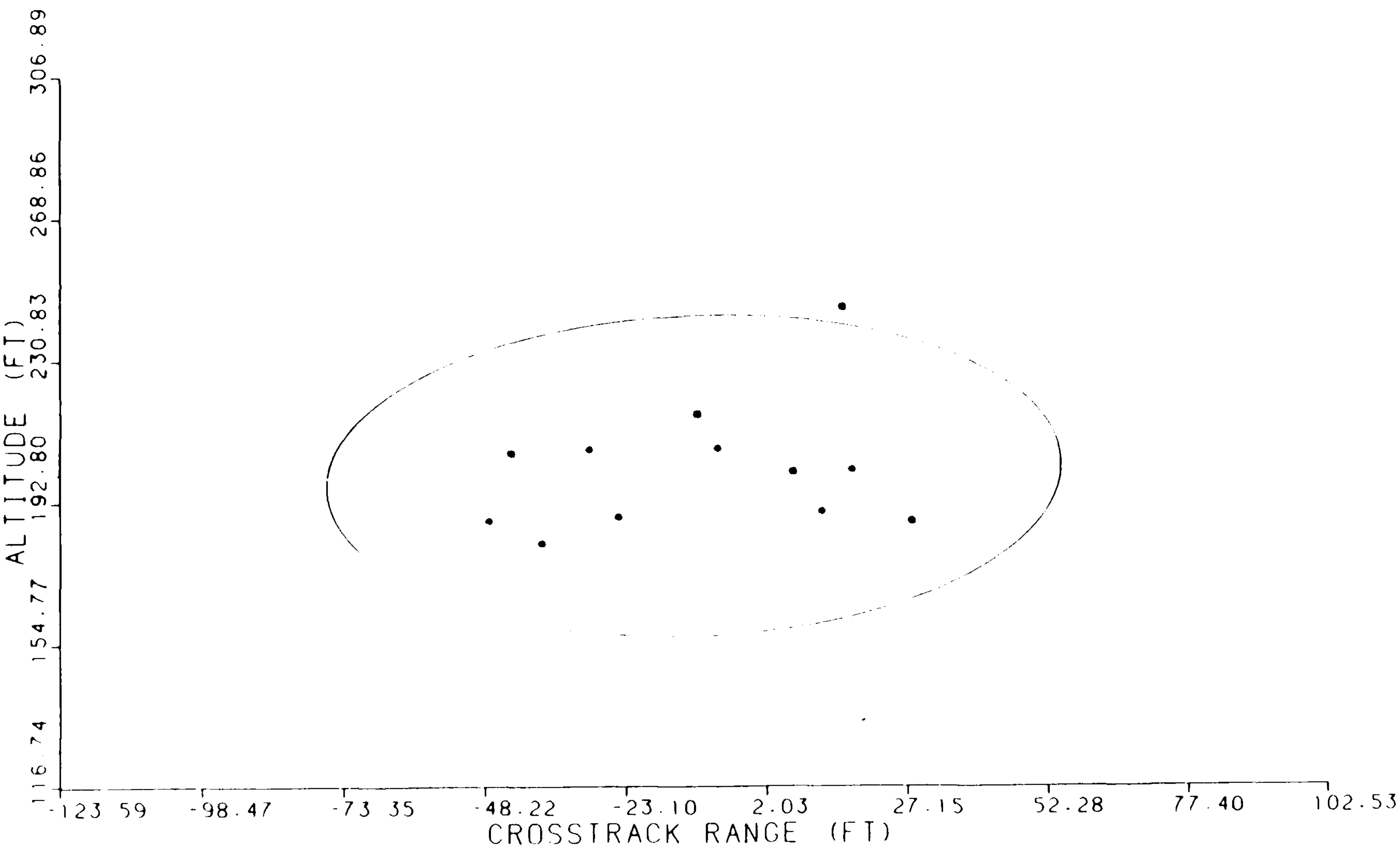
C-172 MLS TERPS
3 DEGREE APPROACH - LANDING SEGMENT
VERTICAL BINS
ALONG TRACK (FT) AT ALTITUDE 200.000

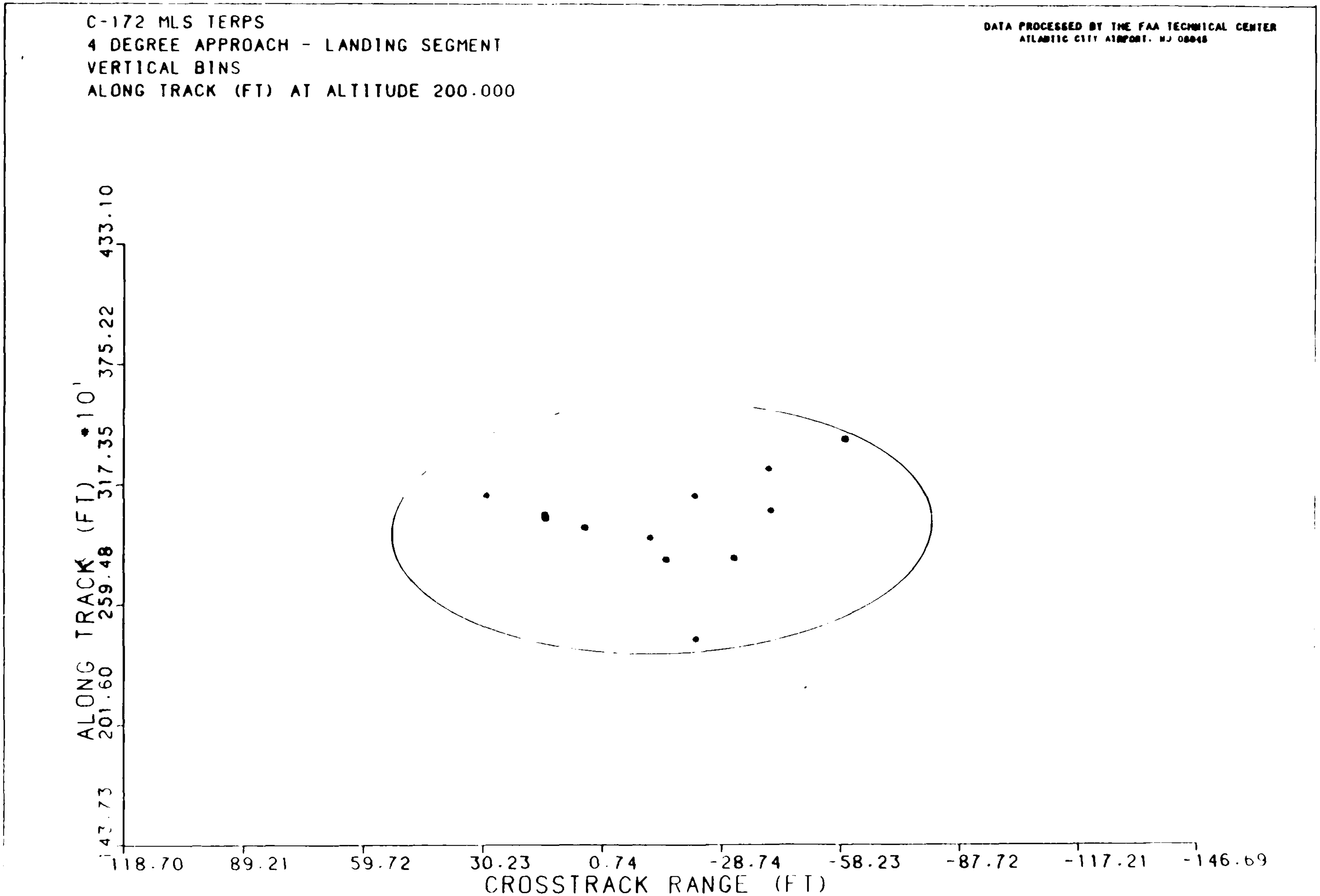
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405



C-172 MLS TERPS
4 DEGREE APPROACH - LANDING SEGMENT
LONGITUDINAL BINS
ALTITUDE (FT) AT RANGE 2847.579

DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405




C-172 MLS TERPS
4 DEGREE APPROACH - LANDING SEGMENT
VERTICAL BINS
ALONG TRACK (FT) AT ALTITUDE 200.000
DATA PROCESSED BY THE FAA TECHNICAL CENTER
ATLANTIC CITY AIRPORT, NJ 08405
ALONG TRACK (FT) *10¹
433.10
375.22
317.35
259.48
201.60
118.70
89.21
59.72
30.23
0.74
-28.74
-58.23
-87.72
-117.21
-146.69
CROSSTRACK RANGE (FT)

C-172 MLS TERPS
5 DEGREE APPROACH - LANDING SEGMENT
LONGITUDINAL BINS
ALTITUDE (FT) AT RANGE 2286.010

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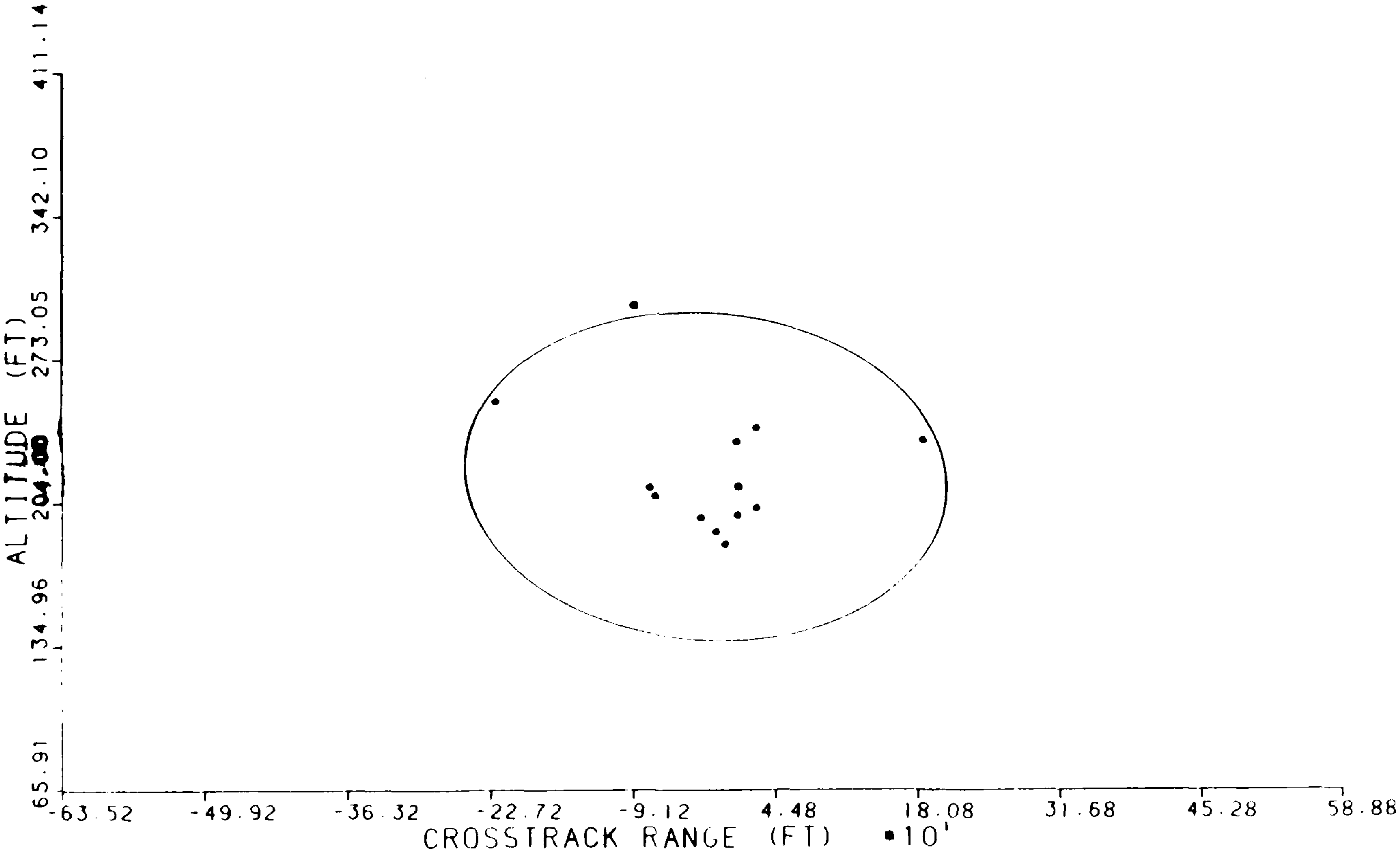
ATLANTIC CITY AIRPORT, NJ 08045



C-172 MLS TERPS
5 DEGREE APPROACH - LANDING SEGMENT
VERTICAL BINS
ALONG TRACK (FT) AT ALTITUDE 200.000

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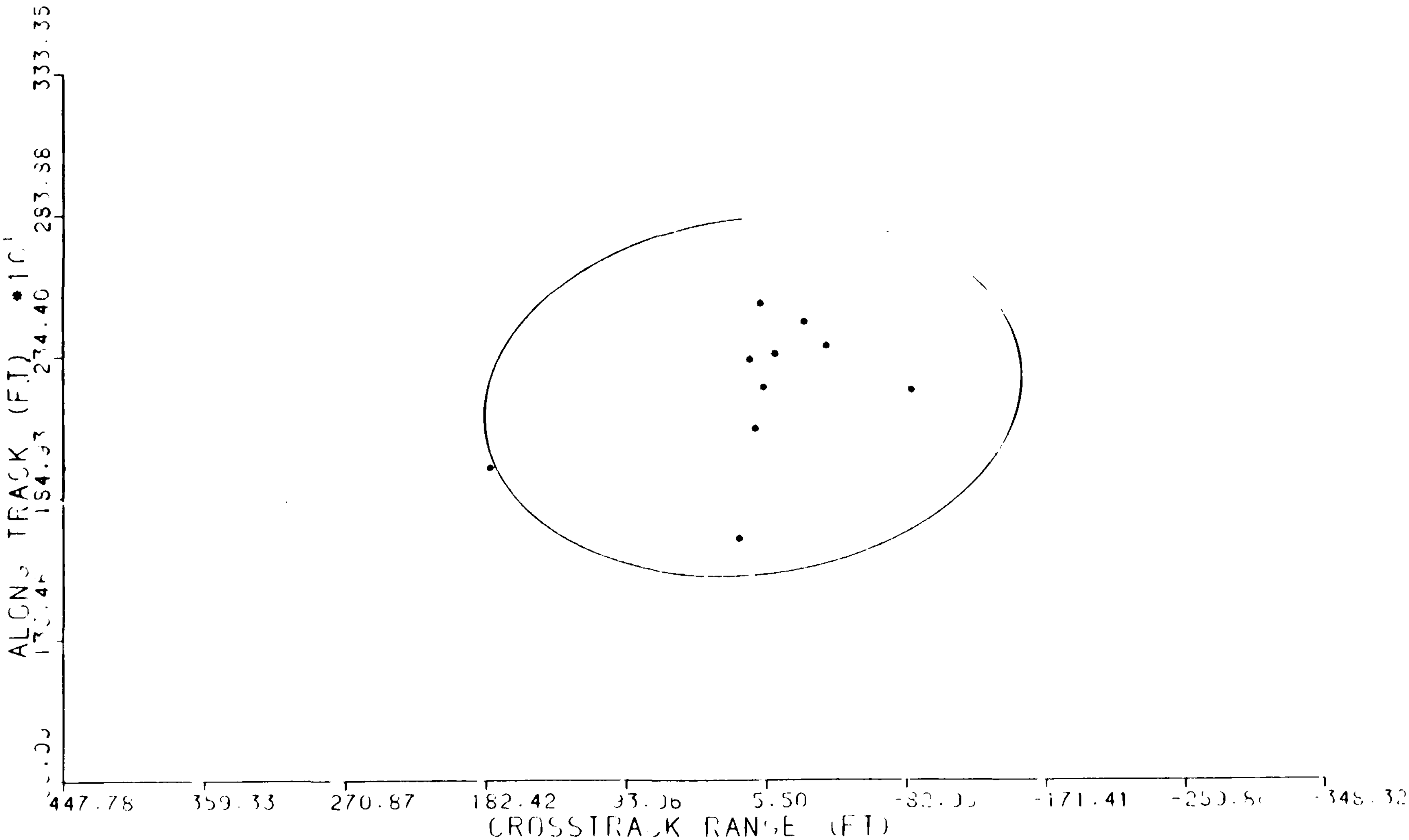
ATLANTIC CITY AIRPORT NJ 08045



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